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CALCIUM REQUIREMENTS OF CHILDREN*

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Extensive study (1) has shown that the calcium requirement of man for the maintenance of normal equilibrium is 0.45 gram per day per 70 kilograms of body weight, and dietary studies of typical American families have brought out the fact that the actual calcium content of the diet frequently falls below this requirement (1, 2). But it is hardly satisfactory to try to calculate children's needs from those of the adult, because the quantitative relation between the needs of growth and maintenance have not been worked out. After reviewing the literature it seemed necessary to have more data on calcium metabolism during childhood.

This paper deals briefly with four series of experiments on the calcium metabolism of twenty-one healthy, normal children from three to thirteen years of age, the full account of which has been published elsewhere (3). The purpose of the first series of experiments was to determine how much calcium is stored daily in the bodies of the normally growing children of different ages. Balance studies of the calcium and phosphorus intake and outgo were made on twelve children in groups of four for nine days each. The children were kept under the constant supervision of one of the writers (E. H.). This series was divided into three-day periods for the collection and analysis of material. The children received milk as a chief source of calcium in approximately the same amount as they were accustomed to in their own homes. For ten of the children this amounted to a pint and a half, the other two receiving about a pint daily. In addition to milk the diet consisted of bread, butter, orange juice, oat meal or macaroni, potato, apple, and meat. The quantity of milk in the diet was fixed; the other foods were in general *ad libitum*, but the quantities eaten were accurately determined in each case.

*Based on experiments carried out under the joint auspices of the Department of Social Welfare of the New York Association for Improving the Condition of the Poor, and the Department of Chemistry of Columbia University. The investigation was made possible by a grant from the research fund established by Mrs. Elizabeth Milbank Anderson.

Results of this study showed that on diets furnishing approximately the same amount of calcium, about 1 gram daily, children stored from 0.15 to 0.62 gram of calcium depending chiefly upon the size of the child. When the storage is expressed in terms of body weight, there was fair uniformity, averaging 0.01 gram calcium stored per kilogram of body weight per day. Phosphorus balances were more variable, being influenced not only by size but also by intake. Phosphorus storage averaged 0.008 gram per kilogram of body weight per day.

After we had thus found the rate at which children on such a diet stored calcium, the second series of experiments was undertaken. It was an intensive study on three children, four, five, and twelve years old, to determine on what amount of calcium they made optimum storage. It consisted of eight continuous experiments of six days each. The calcium intake was varied from period to period by systematic changes in the amount of milk in the diet from one half of a pint to a quart and a half. The diet also included bread, butter, orange juice, oat meal, macaroni or potato, apple sauce, corn flakes or prunes. It was found in these experiments that considerably more calcium was stored by the children on a quart of milk daily than was stored in the first series on one and one half pints. When they received less than one and one half pints of milk, calcium storage fell below the average figure found in the first series of experiments, 0.01 gram per kilogram per day. There was little, if any, greater storage when a quart and a half was given than on one quart. It seems clear that optimum storage was made on an allowance of one quart of milk per child per day, and that this is the amount which should normally be recommended.

The third and fourth series of experiments were planned to ascertain whether children utilize the calcium of vegetables as well as that of milk. The plan of the two series differed somewhat. The third series consisted of twenty-seven consecutive days divided into three experiments of nine days each. During experiments one and three, the children received, in addition to the simple diet used in this study, one pint of milk as the main source of calcium. During experiment two, enough carrots and spinach were added to this diet to increase the total calcium content to that of a diet containing one quart of milk, or the amount found in the second series of experiments to support optimum calcium storage. On such a change of calcium intake the children (five, six, and twelve years of age) should have stored considerably more calcium if the calcium of the extra vegetables were as well used as was that of the extra milk in the second series of experiments. This was not the case.

In the fourth series of experiments the plan was to keep the calcium intake the same throughout the thirty days. A diet of bread, butter, orange juice, oat meal, potatoes, and apple was used. During the first experiment the children received, in addition, one and one-half pints of milk. The milk intake in the second experiment was reduced one-half, and enough carrots, spinach, and celery were added to make the total calcium intake equal to that in the diet containing one and one-half pints of milk. Three children, six, ten, and thirteen years of age served in this series. The results were similar to those found in the third series of experiments. On the milk diet the children stored approximately the same that they stored in the first series of experiments on such a diet, viz., 0.01 gram per kilogram per day. When the vegetables were substituted for half the milk the calcium storage fell to about half that amount.

Phosphorus storage was more variable in these two series of experiments than was that of calcium. In some cases almost as much phosphorus was stored on the vegetable diet as on the milk diet, but in others there was a negative balance during the vegetable diet.

CONCLUSIONS

Healthy growing children on ordinarily good diet were found to store daily about 0.01 gram of calcium per kilogram of body weight.

When the amount of milk in the diet was increased to one quart per day for each child the storage of calcium was materially improved.

Carefully controlled experiments, with diets containing systematically varied amounts of milk, lead to the conclusion that one quart of milk per child per day is the amount required for optimum storage of calcium, and presumably, therefore, for optimum development of bones and teeth.

A quart of milk with a normal allowance of other foods will usually mean a daily intake of at least one gram of calcium for the growing child, which is more than the usual dietary standard for an adult. Hence in planning the dietaries of families containing children it seems advisable to allow a more liberal calcium content than has heretofore seemed necessary.

Repeated experiments under varied conditions indicate that children do not utilize the calcium of vegetables as efficiently as they do that of milk. The importance of vegetables in the diet of children is not questioned, but the vegetables should be used in addition to a liberal allowance

of milk and should not be allowed to reduce the amount of milk consumed.

The investigation as a whole emphasizes the conclusion that, however good the dietary in other respects, each child should receive a quart of milk in some form every day; and that this standard of milk consumption should be maintained at least up to the age of fourteen years.

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HOME PROBLEMS FOR HOUSEHOLD MANAGEMENT CLASSES[1]

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In presenting training in household management to the high school girl, the real household for practice in management is the girl's own home. In most cases she is living at home and the parents wish to have her remain there under their observation. Her position in the home is that of household helper rather than director. If we can enlist the help of the mother who has faced the problem of managing that home, and then show the girl her relation to its management as a member of the household group, we keep her in her natural setting in the home. In suggesting the problems for study at home, the aim has been to begin with the study of the girl's individual problems, to establish her relation to the problems of the family as a group, and then to come back to the girl as an individual in the group. It is not expected that any one set of problems would fit all high school girls. However, the following series of problems is given as suggestive for developing the practice in home management at home:

[1] Extracts from an address presented at the Fifteenth Annual Convention of The National Society for Vocational Education, Kansas City, January 6, 1922.

1. How much time do you spend dressing yourself? Bring a plan of your room drawn to scale showing arrangement of furniture. Study the convenience of arrangement in relation to your dressing, trying to minimize steps and time.

2. Make a study of cleaning your room. How do you make unnecessary work for yourself? How can you improve your methods?

3. Keep a record of how you spend your time for a whole day. Make plans for another day avoiding wasted time and energy.

4. Study general household cleaning. Plan the contents and arrangement of a cleaning closet so that the work will be made as simple as possible.

5. Observe the time required to serve the food for a certain meal. Plan to make this service as little and yet as pleasing as possible.

6. Record the time required to wash and put away the dishes for a certain meal. See how much time can be saved by care in soiling fewer dishes, soaking pans, using dish drainer and convenient dish cabinet.

7. Cook the breakfasts for the family for a series of mornings. Record the time spent and the order of work, trying to improve each day.

8. Bring a plan of the kitchen arrangement and make any changes that are possible to improve its convenience.

9. Study the cleaning of the kitchen, methods, labor-saving equipment, cleansing agents, care of food storage places.

10. Observe the order of work and time spent by your mother in preparing a dinner.

11. Taking the same menu, prepare the dinner yourself, trying to do as well as, or better than, your mother.

12. Make out a list of standard dishes which you should learn to cook in family-size quantities before the term is over. Report these as you cook them, giving name of dish, materials used with quantities and cost, method of preparation, number served, time spent in preparation, parent's criticism.

13. Observe how your mother selects and orders food.

14. Working with her, plan the meals for a week and do all the buying. Bring in your meal plans and purchase slips for criticism.

15. Go with your mother to pay bills. How are they paid? How are receipts kept?

16. Keep records, personal and household. These are to be used, after one month, in budget study.

17. Study the cost of your household laundry, and observe results. Study soaps and other cleansing agents.

18. Take charge of the laundering of your own garments for a week. Watch for excellence of results, time and cost.

19. Visit commercial laundry or a well equipped home laundry.

20. Make an inventory of your clothing and estimate its cost per year.

21. Find the cost of your home in rent or figure the cost of ownership with taxes, insurance, depreciation, etc. Figure your share of this shelter cost.

22. Add to this cost the furniture cost per year, and the cost of operating, and find your share of this.

23. Find the cost of food for a period of time and figure your share of this.

24. What have been the miscellaneous expenses for the month? What share of these is yours?

25. Sum up what it costs to keep you. Is your cost a fair share? Are you living better than you will be able to support yourself with your own earnings?

26. Estimate the total income of your home and compare its plan of distribution with average budgets.

27. How much time and money is spent on household labors in your home? Could more energy, time, money be saved by doing less of some things and more of others?
28. Study the cost and value of a home garden, if gardens are possible in the locality.
29. Bring reports of the cost and income from the keeping of a cow, and of chickens.
30. Assume the complete management of your home for a time.
31. How plan to close a house for a time. How avoid leaving a chance for the development of household pests? How pack for a trip or for moving?

MOTION STUDY AND COSTING IN HOUSEHOLD AND HOME ORGANIZATION[1]

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It is estimated that there are at least eight million women engaged in household affairs in Britain, and if, by a system of economical working, one hour per day could be saved in each case, eight million hours daily would be the resulting economy. It has been estimated at various times that from one-quarter to one-third of household labor is generally non-productive or wasteful. In some cases, the waste is estimated at 50 per cent; consequently, there is an enormous field for improved effort. Motion study, undertaken in America, had relation to organized industry, and was definitely designed to reduce the working costs under which organizations employed skilled and unskilled labor. An early experiment on unskilled labor has shown that a very considerable improvement can be made by a suitable selection of members of the staff for particular jobs, according to physique, capacity, intelligence; and, further, that the methods adopted in actual working are capable of systematized training. The analysis was re-inforced by photographic studies of the actual movements of the worker, and, in many cases, it was necessary for the individual to be trained to alter the method of carrying out an operation.

The application of these results to the home is not a simple matter. The idea of having systematic records is so revolutionary that it would in general, be scoffed at.

[1] Extracts from a paper read at a Conference held in connection with the Ideal Homes Exhibition, London.

It would not be impossible to educate a group of home workers, provided they were to work under suitable conditions afterwards, but an immediate problem arises from the fact that almost every kitchen and every arrangement of equipment in every household varies greatly from every other; secondly, the methods taught in an ideal kitchen for an ideal home might not be operative in the ordinary home, as it stands.

The amount of wastage which goes on daily is largely due to the defective lay-out of kitchens and other rooms. Individuals start life as married couples with the good wishes of their friends and the unfortunate acceptance of many gifts which have to be cleaned and restored throughout a long lifetime at infinite labor and possibly without the production of much happiness. One of the fundamental principles for securing diminution of labor is to eliminate useless articles from household equipment. Having done this, it is then necessary to arrange and organize the essential equipment so that it can be reached, if it has to be handled, with the minimum of movement, and that it can be cleaned with the minimum effort.

Apart from the lay-out of the kitchen or home, there is the important question of the lay-out of time to the best advantage. In comparatively few households will regular time-tables be found, but it is important that a definite time be set apart for a particular operation, and that this operation be carried out at the allotted time and within definite time limits. It is the simplest and the commonest vice to be extremely busy in doing one thing after another without an organized plan, and consequently to achieve comparatively little.

The daily routine should not only provide for certain operations to be carried out between definite hours, but it should also provide for suitable rest pauses of, say, 30 minutes in some cases, 15 minutes in others, when the definite program will be to cease work and relax. This has not only the effect of reducing fatigue, but also of reducing nerve strain, one of the most fruitful causes of discord and difficulty.

As a matter of simple experiment, the ordinary household procedure can be checked most easily by making a number of time-tables, and by using the clock as the chief measuring instrument. A given operation is performed from one week to another, and it should be easy to time the proceedings exactly. The second step would then be to examine the various movements in the process and to see how many of them can be reduced or eliminated. Some may be eliminated by more careful planning, others will require an alteration in the disposition of equipment.

Costing is regarded, in general, as a means of determining, in industrial business, what charges should be made for particular work done, and, through costing economy, management can be effected. The household budget is capable of analysis, but, in this sense, costing is a different matter from costing in industrial factories.

To understand the budget properly, it is necessary to divide it into certain broad sections without analyzing the details in those sections first. The special sections are: (1) household charges—rent, insurance, taxes; (2) clothing—boots, personal expenses; (3) food supplies—bread, meat, vegetables, tea, sugar, milk, etc.; (4) household repairs; (5) sundry expenditures. A proper record of these items from week to week will soon show where excess expenditure occurs; it will then be necessary to analyze the expenditure in one or other of the groups. There is also the question of lessening costs by ordering and shopping in an economical fashion. It may be possible to buy an article cheaply in a given place, but to spend a certain amount on travelling and a great deal of time before this is achieved. The balance is to be sought in the apportionment of spare time. It does not always follow that the individual shopper is economical when she has secured a "bargain." It might result in waste of time, or even bad health, which makes it anything but a wise expenditure.

Finally, attention may be drawn to the psychological factors involved in household work. It is unusual for household work to be completed early in the day. This is due to more than one cause. Interruptions are frequent, but there is also some tendency to think that things are not being well done unless they are prolonged for many working hours. This is a deep rooted and injurious opinion held by many housekeepers. It would revolt many to find an individual resting, yet experience and experimental work has shown that this is of prime importance in increasing the output of work. If working hours are reduced systematically, the perpetual grind of unfinished work that causes the harassed look on many a face can be largely obviated.

Nervous tension is very common; it may be relieved by rest pauses at suitable intervals, or by change of environment, at long intervals, commonly known as a holiday. Sometimes the cost to a household in providing a holiday will be one of the best items of expenditure in their budget.

THE EVOLUTION OF A NUTRITION CLASS PROGRAM

GERTRUDE GATES MUDGE

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Within the past few years, those interested in nutrition class work have witnessed a phenomenal growth in the popularity of the movement. Classes have been initiated by many types of health and social agencies, by schools, and by churches. All manner of workers have had a part in the undertaking; the physician, the nurse, the home economics and physical training teachers, the "nutrition specialist" with combined home economics, social service, and health training, and the plain "college graduate" with no speciality but much enthusiasm. The New York Nutrition Council, with an attendance at its monthly meetings of from two to three hundred, attests the widespread interest in the work. Truly, the undernourished child is in the lime-light of the health education stage.

With this mushroom growth, has come an ever increasing realization of the necessity for careful standardization of methods of work, in order to make past accomplishments of permanent value. Past achievements must be evaluated and future plans based upon previous success and failures. As a contribution to such an inventory of nutrition stock, the following brief history of the evolution of a nutrition class program is presented for your consideration.

The Health Service, New York County Chapter, American Red Cross opened its first Child Health Stations in the fall of 1920. Two were located in settlement houses on the lower East and West sides, in Jewish and Italian districts, respectively. Later two others were opened: one in an uptown public school where the work was conducted in cooperation with the New York City Departments of Health and Education and Teachers' College, Columbia University; the other in cooperation with the East Harlem Health Center, which is located on the upper east side in an Italian district. Only the work of the first two Stations is reported here.

Two nutrition workers were appointed for each Station. Medical service was supplied by paid pediatrists and dental care made available through the services of paid oral hygienists and volunteer dentists. Undernourished children for the nutrition classes were secured according to the approved method of the time, by weighing and measuring all the

children in the first three grades of public schools in the respective neighborhoods. Children found to be 8 per cent or more underweight for height and age were given a thorough physical examination, and, at the recommendation of the pediatrists, were enrolled in nutrition classes. These groups met weekly for a period of four months for nutrition instruction, after which time they were transferred to a monthly basis. The outline used for the nutrtion class lessons is as follows:

I. Food (at least 8 lessons)
   1–5. *Simple foods* which should be included in children's diets. The purpose of these lessons should be to acquaint the children with these foods and to encourage them to eat and enjoy the foods thus introduced to them.
   6–8. *Meals.* In these lessons the points covered should be the need of meals at regular hours, and the suitable amounts and combinations of foods. If possible, children should be seated at a table and should learn something about proper table manners as well as how to set a table for meals.

II. General hygiene (6 lessons)
   9. *Physiology* lesson, stressing need of laxative foods.
   10. *Posture* and *exercise,* including value of deep breathing.
   11. *General cleanliness.*
   12. *Sleep* and *rest.*
   13–14. *Teeth,* including the importance of correct food for building of teeth, the value of thorough mastication of food, and the tooth brush drill. These lessons should be given in cooperation with the Red Cross dentists and oral hygienists.

III. Subject matter which should be a part of each lesson
   1. Posture.
   2. General Cleanliness.
   3. Sleep and rest.

Note: These lessons are designed to cover a period of four months or about 16 lessons. Fourteen of the lessons are provided for by the above outline, leaving 2 to be used for any special educational need which has become apparent in connection with the conduct of the individual class.

All children were transferred to the monthly classes at the end of the four month's period of intensive teaching, whether or not they had reached average weight for their height and age. If they had fulfilled the requirements for graduation, a ceremony with accompanying honors took place, and a diploma was given to each one. The requirements for graduation were as follows: 1. That the child shall have had, as far as possible, all physical defects corrected. 2. That he shall have approximately reached average weight for his height and age. 3. That he shall have regularly attended the sessions of his nutrition class. 4. That he be practicing in his daily life the lessons learned in class.

Frequent home visits were made by the nutrition workers, not only to urge the parents to coöperate in the correction of the physical defects of their children, but also to carry the nutrition class teaching into the homes. It was always the desire of the workers that the parents attend the classes whenever possible, but, as many were too busy to come weekly to the Stations, teaching in the homes became of more and more importance.

During the first year, classes were organized and conducted according to this plan. Firm contacts were made, not only with the families, but also with the coöperating settlement houses, the neighboring social and health agencies, and especially with the public schools. Both principals and teachers became increasingly interested in this educational program, and frequently referred special cases to the nutrition workers for attention.

As time elapsed, it became more and more apparent to the workers that logically the classes should be organized in the school and conducted in school hours as an integral part of the school program, the Stations being used primarily for pre-school work. At the close of the first year, with the approval of the Health Service Committee and the school authorities, it was decided that the newly organized classes should be held in the schools. The general procedure in their organization was similar to that previously described. Classes were held in any vacant space available; the auditorium, a class room, the teachers' room, and even the lobby of the assembly hall were pressed into service. The nutrition workers found these necessary adjustments to the school system irksome, as compared to the conveniences afforded at the Child Health Stations. However, the results more than justified their added efforts. The children attended more regularly as they were sent directly from the different class rooms. The teaching carried more weight in the home because it was identified with the school system, with which the parents were acquainted. The principals and teachers were more closely allied with the new health teaching, and added their authority to the carrying out of the program. The nutrition workers were then able to coöperate more effectively in the health activities of the schools.

After four months of this experiment, the workers decided that one more step was necessary in this evolution of the nutrition class. So far, only undernourished children of the primary grades had been selected

for membership in the classes, no instruction being made available for the so-called normal children. Conferences with principals and class teachers assured the nutrition workers of their approval of the plan to conduct the teaching of nutrition and health for the benefit of the entire class room, this to be done in close coöperation with the grade teacher. Three such classes of third grade children were organized. The general outline of work was briefly as follows:

I. Selection of children
   a. Number—all children in one class
   b. Grade—2nd or 3rd grade
   c. Age—7 to 8 years
   d. Sex—Either *all* boys or *all* girls, if possible

II. Medical information
   a. Record of school physician to be used in coöperation with school nurse
   b. Special physical examination by Red Cross pediatrist for undernourished in class, number determined by usual procedure of height and weight measurements

III. Treatment of physical defects
   a. All children should have: (1) oral hygiene, (2) dental repair work
   b. Undernourished children should have other physical defects remedied as far as possible

IV. Conduct of nutrition class
   a. Schedule—class to be held once a week for 15 or 20 minutes during school hours, as in physical training period, etc.
   b. Weight records—all children to be weighed every week, if possible
   c. Class instruction—to be given by grade teacher assisted by nutrition worker, or by nutrition worker herself, as preferred
   d. Duration of class—three or four months
   e. Home visiting—visits to be made only in homes of undernourished children and others at the special request of the grade teacher

At the termination of this demonstration, it was the unanimous opinion of the nutrition workers that nutrition education should not only have a permanent place in the school curriculum, but that it should be made available for all children of the primary as well as the grammar school grades. A private agency, such as the American Red Cross, can render inestimable service by demonstrating the value of such education in health habits, but it is for the established school personnel to assume the permanent responsibility for the program. The problem as to who is best qualified to assume this responsibility is yet to be solved. Together, the home economics and grade teachers and the school nurse should work for the common health of their school children.

ARTIFICIAL SILK*

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In the last century a new textile fiber known as artificial silk has been invented and is fast taking its place among the natural vegetable and animal fibers. Although there is a great deal still to be done in the improvement of this fiber, its progress in the textile world has been very rapid and it is sure to have a wonderful future.

All early artificial silk was made by the Chardonnet process or a modification of it, nitrocellulose being used as a basis (1), (2). Chardonnet himself opened up the first factory and was almost without a competitor until seven years later when Pauly took out a patent for the manufacture of cuprammonium silk. These processes were French and German in origin, but viscose silk, the latest and at present the most important of any of the forms of artificial silk, is entirely English in both origin and development. It is distinguished from the others by its great covering power, its luster and greater resistance to dyeing, and is being used very widely. Cellulose acetate is also being manufactured at present although only to a limited extent (3).

Development of the industry. The war greatly reduced the European production of artificial silk, stopping work in all the plants in Belgium and in invaded portions of France, while the shortage of labor and chemicals affected the industry in other countries. The great Tubize Company in Belgium (4), in operation since 1900, with a pre-war production of about 10,000 pounds daily, dismantled its factories and buried or otherwise concealed its lead, copper, and other metal fixtures, its electric motors, generators, wiring, and belting, and escaped German confiscation. Shortly after the war closed, this factory was operating at the rate of its pre-war output and showed a profit for the fiscal year, 1919, of 4,178,264 francs. This plant uses the Chardonnet process and is about to commence making silk by the viscose process. Recently it contracted with an American syndicate to erect a large artificial silk factory in the United States, with an initial capital of $5,000,000. Another Belgian factory, after ten months' work of restoring half of its installation, reports a profit of 2,142,757 francs for four months' operation in 1919 (4). The manufacture of this chemically produced textile

* This paper is part of a cooperative project done under the direction of Professors Iva L. Brandt of the Home Economics Dept. and Ruth O'Brien of the Chemistry Dept.

is now going on in Switzerland, Germany, Poland, Russia, Italy, Japan, and the United States, as well as in Belgium.

It is of interest that the bulk of imported artificial silk yarns, threads, and filaments came from England in 1918, but in 1919 receipts from Switzerland of $1,983,251 exceed those from England by $1,311,883. Valuable imports of these yarns from the Netherlands, Italy, Belgium, and France, and of other manufactures of artificial silk from Switzerland and the Netherlands, as shown for the calendar year 1919, indicate a rapid recovery to normal industry. Although $200,685 worth of yarns came from Germany in 1919, it dropped to sixth among the countries from which these imports were derived, whereas, at the outbreak of the war, it was crowding Belgium for second rank following England (4).

According to a recent report of Assistant Trade Commissioner Breed of Prague, a group of German textile manufacturers has established a new company in Prague for the manufacture of artificial silk (5). Other important concerns are also reported to be established in this industry. According to the American Minister at Prague, this industry is making unusual progress in Czecho-Slovakia (6). In May, 1921, four concerns, with a total capitalization of 130,000,000 crowns, had been established.

In July, 1920, it was announced that the Italian company, S. N. I. A. (Societa' di Navigazione Italo Americana), which had increased its capital and had extended the scope of its activities, would in the near future begin the construction of several new plants for the manufacture of artificial silk (7). These plants, it was thought, would be located at Turin, Naples, Orbasano, and Bra. In the first two instances sites had already been purchased, and it was expected that these new plants would employ not less than 10,000 workers. The S. N. I. A. Company, through the controlling interest which it holds both in the "Cines" Seta Artificiale and in the Viscosa Company of Pavia, as well as in the Societa' Italiana della Viscosa, which is located at Veneria Reale, near Turin, is already the dominant factor in the artificial silk industry of Italy.

Since European countries were the first to develop artificial silk commercially, we find that it features in the import trade of the United States for about ten years before it appears to any great extent among its exports. Artificial silk and its manufacturers were first shown separately in one class in the statistical classification of imports for the fiscal year 1911 with a total of 1,947,423 pounds valued at $3,279,559 (4). All but 12 pounds of this came from Europe.

From 1912 to 1920, inclusive, the imports of artificial silk yarns, threads, and filaments amounted to 14,330,366 pounds valued at $25,351,906 or an average of 1,592,263 pounds annually. Other manufactures for the corresponding nine years totaled $5,236,650, or an average of $581,850 annually.

The shortage of real silk during the war period resulted in an increased demand for substitutes for natural silk. At no time during or since the war has the world supply of artificial silk been equal to the demand. The substitute, of course, cannot compete with the natural silk except in the lower grades, but in its own field, in novelties and in combination with cotton, it has a wide range of application.

The first plant to produce artificial silk in the United States was established in 1911 as a branch of an English firm, and used the viscose method. From 1911 the figure of 320,000 pounds' production of this concern rose to 9,000,000 pounds in 1920, and at the present time expansion is under way which will more than double its capacity (8). In 1919, there were only two concerns in the United States actually producing artificial silk yarns on a commercial scale, one located at Cleveland, Ohio, and the other with factories at Marcus Hook, Pa., and Roanoke, Virginia (4). The latter was said to be producing from 150,000 to 200,000 pounds per week in September, 1920. The extraordinary demand for this product, however, has led to the recent formation of other corporations, with abundant capital to establish large factories. Each of three large American concerns is said to be allied with the largest producers in France, England, and Belgium, respectively. The firms in this country now manufacturing artificial silk are the Viscose Company, Lewiston, Pa.; Du Pont Fiber Silk Company, Buffalo; Tubize Artificial Silk Company, Hopewell, Va., which manufactures nitro-cellulose silk; American Cellulose and Chemical Manufacturing Company, Cumberland, Md., which also manufactures a cellulose-acetate silk; and R. P. Dicks, Patterson, New Jersey (9).

In June, 1921, the board of managers of the Silk Association of America elected eleven new firms to membership. Two artificial silk concerns, the Viscose Company, and the du Pont Fibersilk Company of Buffalo, were among the eleven, being eligible through a recent decision of the board (10).

Chemical and physical properties. Artificial silk has many defects as compared with the natural silk. Some of these are: the size or the denier of the threads is too great; the strength and especially the elasticity are not satisfactory; the loss of strength on wetting is excessive;

the lack of covering power reduces the value of the products; some types do not always dye evenly. Of course, as was stated, these defects are gradually being overcome. Each company is experimenting and working out improvements along these lines. Even now the Lustron Company claims to have a silk which has a great strength when wet. Viscose has a much greater wet strength than nitro-cellulose.

The artificial substitutes excel the natural silk in one quality only—luster. The products of the various processes differ from one another and from the natural silk in chemical composition. Consequently they have different properties and must be handled differently in spinning, bleaching, and dyeing.

Artificial silk may be distinguished from natural silk by the harsher, stiffer feel it possesses and also by its high luster. By experimental work, these differences are being lessened and the time will come no doubt when the fibers can no longer be distinguished by their outward appearance only. At present they can be identified by both microscopical and chemical means (1 and 11).

The tensile strengths of the different fibers might also be used as a means of identification. The following table shows the breaking strength in grams (12):

SILK		DRY	WET	REDRIED
Chardonnet	120 den.	42	0	95
Glanzstoff	130 den.	40	35	41
Viscose	120 den.	51	50	51.5
Viscose	200 den.	91	86	88

Viscose, at the time this table was made (1916), had a tensile strength about half that of real silk.

Another table, made in about 1917, gives the grams per denier as follows (2):

	GRAMS PER DENIER	
	Dry	Wet
Chardonnet	1.1	0.25
Lehner	1.4	0.36
Cuprammonium (Glanzstoff)	1.3	0.5
Viscose, 1907	1.1	0.35
Viscose, 1913	1.4	0.55
Viscose, 1917	1.17	0.75
Natural silk	2.5	2.0

There is apparently no data available on the tensile strength of the finished fabric as purchased by the consumer. In a series of experiments performed by the writer, Baronette satin was studied. The particular sample used contained 47 cotton picks per inch and 166 viscose silk ends per inch (75.55% viscose silk and 24.45% cotton). The determination was made according to the standard method (13) and the following results obtained:

Tensile strength Baronette satin cut with woof of viscose threads

HEATED 2 HOURS AT 105°C.	WET	WET AND REDRIED
lbs.	*lbs.*	*lbs.*
113.50	23.0	96.50
112.50	22.50	95.0
114.50	22.25	94.50
115.0	22.50	90.0
115.50	22.0	93.0
114.0	22.25	92.25
116.50	23.0	94.25
113.50	23.0	94.25
114.50	23.0	93.0
117.50	22.50	91.0
Average....114.7	22.6	93.37

This data illustrates the decided reduction in strength when the fabric is wet or redried after wetting.*

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* Such properties as well as the resistance of the fabric to light, perspiration, and wear are of importance from a practical standpoint, and are being studied in this laboratory.

A CLOTHING PROJECT

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One of the criticisms raised against the classroom method of teaching clothing, especially in the teacher training classes, is that the students' needs are so carefully anticipated that she does not realize the pitfalls until she is thrown upon her own resources in teaching. This causes the young teacher to flounder because she lacks a clean cut point of view, and, in many cases, it lowers the standard of her work.

In a clothing class, which is based upon selection and design, a student should first, by guidance and analysis of designs, build up for herself a series of principles which should function as a basis for sound judgment in future decisions. She must formulate these principles independently after problems have been discussed; otherwise, they never become vital in her decisions. Second, she should build up a certain amount of accurate technique, a flexibility of method which will enable her to handle in an acceptable way almost any technical problem related to the work on which she has been given instruction.

In order to test these theories, it was decided to try, as a simple project, the making of a gingham dress, in a course in principles and practice in clothing construction and design. The project method had previously been discussed in the methods class. The instructor aimed to make the organization so simple as to suggest to the students a method of conducting a similar project with high school girls. The following outlines explain the method. Part I was prepared by the instructor. Part II was worked out by the instructor and the students during a lecture period. Part III was a brief examination, the results of which were tabulated and discussed with the students. Part IV was worked out by the instructor to guide the discussion of the students.

PART I. CLOTHING PROJECT

The project undertaken must be approved by the instructor. In planning the project, students should keep the following points in mind:

Place. The work may be done in the clothing laboratory or at home. The students must report to the instructor at least once a week.

Preliminary work. Dress designs, appropriate for the project, and approximate cost will be discussed with the instructor. The student will then make her own selection. She may model the garment, or use a commercial pattern, or a combination of the two.

Time. Six 2½ hour laboratory periods.

Report. A written report, following the outline provided, is due with the product.

PART II. REPORT OF PROJECT

1. Student's name.
2. Nature of the project. (a) Brief description of the person for whom made. (b) Type of garment and appropriate for what use. (c) Sketch of the dress. (d) Reason for selecting this design. (e) Sample of material stating why it was chosen.
3. Dates of beginning and ending of the project.
4. Actual number of hours spent on the project.
5. Plan of work. (a) Actual use of time on two days. (b) Number of consultations and with whom held. (c) Trips down town. (d) Itemized account on separate sheet. (e) Difficulties met and how solved.
6. Related subject matter used.
7. Evaluation of this experience in terms of personal gain.

PART III. EXAMINATION

Typical questions were as follows: Is this exercise a true project? Would you advise the continuance of this method of teaching, and, if so, would you suggest modifications? Is this method economical as to time? Is it possible to use this plan, with modifications, in high school teaching?

PART IV. DISCUSSION

1. Score card evolved by class for grading this particular project.

Score Card

I. General appearance. Proportion (spacing, dark, light), line, color, silhouette, texture.
II. Suitability for intended use. Suitability of material (spacing, line, silhouette, texture), suitability of color.
III. Workmanship. Hems, seams, stitchery, pressing, other finishes—bindings, facings, fastenings, cordings.

Questions

Which dress seems most appropriate for the wearer?
Which dress fits the best?
Which dress will probably give greatest happiness for the longest time? Why?
Comments.

2. Criticism of dresses by class, according to score card.

3. Comparison of dresses with ready-made dresses of about the same grade as to design, quality of materials used, wearing quality, finish, cost.

4. Discussion of entire exercise as to consciousness of needs, with special reference to selection, design, technique; means by which an attempt should be made to meet needs; pleasurable features; general criticism of Part II.

The suggestions from this discussion influence the subject matter to be presented during the remainder of the course.

The results of this project were gratifying and illuminating to instructor and students. It is suggested that this method of vitalizing clothing work be used early in the course.

CHOOSING A LIFE WORK

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Forty years ago, south of Rector Street in New York City, there was but one woman employed in any office. So rare a thing was it to find a woman in that part of the city that the restaurants were not open to her and the lonely worker had to carry her lunch with her or go without. Even twenty-five years ago, institutions training for the few professions open to women were just beginning to stress the need of a college education as a required basis for the special calling. With these facts in mind, in this year of grace, 1922, Elizabeth Kemper Adams' book, "Women Professional Workers"[1] seems like an Arabian Night's Tale.

Representative occupations are scanned to determine whether or not they are worthy of being called professions. Professional people are officially in the public eye and are being judged. Women to be considered a success should raise the standard of their callings, constantly endeavor to improve themselves, increase the group spirit and ideals of brotherhood and disinterested service, and take an active part in associations of their respective professions. During the late war army officers

[1] Research Department, Women's Educational and Industrial Union, Boston, Mass.

were rated for intelligence, physical fitness, leadership, personal qualities, and general value in the service, and women could well develop similar standards in their work. Their future recognition depends largely on establishing, maintaining, and raising the grades of the professions in which they are engaged. Men have set standards for the learned and scientific professions, and women must not only live up to them but set equivalent ones in the newer professions. They must think clearly and honestly of the requirements of professional life and appreciate that they can receive recognition from their brothers only when they take a serious attitude toward all professions open to them.

Professions into which women are going. The professions open to women are grouped under the following heads: Learned Professions,—law, medicine, and the ministry; Health outside of Medicine; Food and Living; Community, Civic, Government, Social, Personnel, Industrial, Labor, Commercial, and Information Services; Art and Technical Professions; Library and Museum Work; Teaching and Education.

Law, medicine, and the ministry have long had the prestige of high ideals, careful organization, and standard curricula. Women are found in all of them but they have their greatest success in the newer social phases. In law, they are of value in problems of human relations and justice. In medicine they are efficient in institutions, in laboratory work and in scientific research. They look after the health of employes and are nurses in hospitals, dispensaries, baby hygiene depots, and in private and community service. The trained social worker, who can diagnose disease and use practical psychology in advice, is in increasing demand at the hospitals. A woman has been appointed on the medical faculty of Harvard and of Iowa State University. The higher ideals of the responsibility of the employer for the employe are bringing industrial health service into factories and department stores, and women are filling worthy positions. The ministry is also recruiting women with college training to conduct the social branch of the parish work.

Feeding, housing, textiles and clothing are tremendous businesses and professional women are being called to positions of responsibility and insight. Home economics is demanding new phases of training in business, industry, accounting, psychology, applied science and art, sociology, economics, labor problems and administration. Teachers are the most numerous group in this field but the profession is extending into civic agencies.

During the war the development of food production on an enormous scale led to new professions for women. They succeeded as producers on the farm as well as in marketing the product and in conduct of the canteen. The need for salvaging textiles and clothing demanded experts in these subjects. It was realized that food, clothing, and textiles are great public utilities and are intimately related to industry, health, thrift, and recreation. Local banks have opened rooms in which expert consultants trained in home economics can meet those who desire information.

Institution management and large scale food services are taking women into hospitals, university commons, and public institutions. Employers are utilizing college women to solve for them the problem of feeding large numbers so that efficiency is increased. Revolutions have come about in methods of service through cafeterias, and self-service and automatic restaurants. Hotels are also under women's guidance.

Municipal housing problems are open to those who are trained in social economics and city government. Community and social work are developing standards which are becoming professional. Community clinics for nutrition and information bureaus for food, clothing, and household matters are being conducted by professional experts. The States Relations Service of the United States Department of Agriculture and the Federal Board for Vocational Education have encouraged these movements and are employing college women with special training.

The business world is calling for the trained woman and, increasingly, for the college woman. She is found as a buyer of textiles and clothing, as an efficiency manager in ready-to-wear workrooms, as an expert designer of costumes, or as an adviser in the selection of merchandise for all departments of a retail store. Advertising and editorial work in both trade and household journals are in her hands. The "personnel" service is one of the newer fields.

Women are found in many phases of art as architects, musicians, painters, mural decorators, and designers. They are in moving picture studios and on the stage. They are doing artistic and skillful craft work in glass, metals, and textiles.

In the technical fields women are demonstrating that they can qualify for a high degree of efficiency. They are found in chemical and bacteriological, geological, and geographical laboratories; they are assisting in engineering, in mathematical astronomy, and in mechanical industries. They succeed as topographical draughtsmen. Statistical services are using women to conduct work in mechanical tabulations and statistical science.

Older professions for women, such as teaching, and library and museum work, are extending their former fields and offering new and interesting allied professions.

In this treasure house of guidance, deans, counsellors, and teachers will find material to direct intelligently those who come to them seeking to discover their life work. For all college women, questions are here set forth for solution that should be faced with a determination to raise the standard in all professions for women, intellectually, technically, and spiritually.

MARKET MYTHS

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Certain market myths confront every worker in market subjects with an enviable persistence. They are advanced wisely as original ideas, or they are referred to with an air of reverence, as shibboleths. They are on the tongues alike of the learned and the unlearned. Could these workers for better distribution coin slogans, fundamentally sound, that would take the same tenacious hold upon the minds and imaginations of the public, that alone would make their work constructive.

"The elimination of the middleman" is a process often commended, often urged. But is it possible? Is it desirable? Who are the middlemen? What work do they do or what functions do they perform? Middlemen include the country buyer in remote districts who buys the comparatively small quantities of many foodstuffs grown by the small farmer. Even he may not be able to accumulate a carload and so may be compelled to sell or consign to another dealer in a concentration point who can assemble the carload lots necessary for economical shipping over long distances. Then other middlemen must distribute these same products in wholesale and retail quantities in the consuming centers.

The warehousemen who store our food products from the time of harvest until needed by manufacturers or city families are middlemen.

The manufacturers who turn cattle into meat and grain into flour, and the bakers who turn flour into bread are middlemen. The whole-

sale dealers in the dense business areas of large terminal markets, the more accessible retail dealers, and the corner grocers are middlemen. Close study of the processes of marketing under our existing conditions, with large cities fed from remote producing areas, fails to reveal any one of these classes of middlemen who could be spared today without making the marketing process more difficult.

Under suitable conditions and circumstances, organizations of producers may be developed that can successfully undertake some of these functions, but it must be remembered that the functions are highly specialized. Conceivably, but not so certainly, organizations of consumers may be developed that can assume other of the necessary functions. The number of middlemen may be reduced, competition by hired intermediaries of associations may be introduced, improvement in methods may be brought about, and charges for certain services may be decreased, but the functions performed by middlemen cannot be eliminated unless farmers or city dwellers are willing to return to such operations as the grinding of their own grain and the baking of their own bread.

"Bringing producer and consumer together" is another favorite expression of the same general idea. For small quantities in small communities, well and good. Even large farmers' markets often prosper in large cities although there are always many thrifty farmers who find it more profitable to spend their time in production than in selling at retail, and some consumers who do not find it profitable to spend the necessary time in going to a downtown market when food can be bought from a dealer nearer home.

But what of the 12 million bushels of potatoes needed to supply New York City during one year? Should the growers from Maine to Florida, and the Great Lake States, attempt to carry these potatoes to the millions of New York homes that need them? Or will the New York families journey to those far-distant states for their potatoes? Even to go "up state," personally, for the family supply is out of the question. Limit New York City to the potatoes and other foods that can be grown on neighboring ground and it will be reduced to an immediate state of famine. By what imaginable process, then, can the mass of producers and consumers be brought together?

"Dumping to keep up price" is a not infrequent charge against dealers in food products. Not only has thorough search and investigation by trained workers failed to reveal actual proof of any such occurrence,

except in case of spoilage, but all reason is against it. Keeping up prices by such methods presupposes control of the entire supply of the product by a few individuals. Fresh fruits and vegetables move into markets from hundreds and even thousands of scattered growers and are handled by many dealers. Dumping by any one owner would obviously subject him to loss, and the slight price increase that might conceivably result would benefit not the man who dumped, but his competitors. If each dealer dumped half his supply he might hope to double prices on the other half, but if anything like this was done everyone would know it and proof would be found on every hand. This probably is the most vicious myth of the market that plagues the public mind.

"Cost of production plus a reasonable profit" is frequently urged as the basis for price determinations. But what is cost of production? In the same neighborhood the efficient and experienced farmer on good land, with good equipment, may produce a crop at much less cost per bushel than his inexperienced neighbor, who works just as hard but perhaps with poor tools on poor land. Is the consumer ready to pay the ineffective producer a much higher price for his produce because he has unwisely spent much on its production? On the other hand if only the best land is utilized will there be food enough?

Efficiency is a threadbare word but it supplies the only hope of early improvement in our present food marketing situation. Increased efficiency in production, that is, the production of food at a low cost per unit, coupled with increased efficiency in marketing, with just compensation for services rendered and risks taken, constitutes the one promising program for improvement in the great business of feeding the nation. Progress in this program will come only as we work away from catchwords and set phrases and devote ourselves to clear and impartial analysis and unprejudiced and independent thinking.

HOUSEKEEPING ON A FARM IN NORTHERN SPAIN

In an interesting volume describing a journey through mountain regions of Northern Spain, seldom visited by tourists, Hans Gadow[1] gives much information about the food habits, cooking methods, and

[1] "In Northern Spain" by Hans Gadow (Adam and Charles Black, London, 1897).

other household customs of the farmer living there. He describes a farm house in the mountains remote from any large town where he and his wife found kindly hospitality and reasonable comfort.

The door of the farm house is protected by big stones, which are piled up to form a pair of steps, but so high and so slippery have they become through the constant traffic that they can be passed only with great caution. The entrance, rather a wide and dark passage, has no floor but the natural rock, made still more uneven by slippery cobble stones, which, unless gingerly stepped upon, allow the foot to jam itself into the intervening deep cracks, and this "pavement" is continued into a still more dangerous pantry. . . . .

The "hall" is furnished with a bench, a few chairs, and a set of pitchers. A door on the left leads into the chief kitchen, a dark place, with the hearth, over which is suspended the kettle by iron hooks and chains, while from the ceiling hang hams and sides of bacon still curing in the rising smoke, which has blackened everything. . . . .

To the right of the passage is the dwelling-house, with storerooms below, while above is a large room, *la sala*, with a small shuttered window, and a door, likewise shuttered, and leading out upon the wooden balcony which looks over the whole village and commands beautiful views. The furniture of the *sala*, the general dining-room, is very simple, consisting of a comfortable, high-backed bench, with the dining-table in front, another table, and several rush-bottomed chairs.

On the right side are two dark rooms, just large enough to hold one bed each, together with stores of butter and cheeses. The larger room on the opposite side was assigned to us. It might be called the study, for, besides a spare bed, the Sunday dresses of the family, and Don Prudencio's [the head of the house] gun, it was furnished with a table and drawers which held Don Prudencio's odds and ends, as, for instance, papers, writing materials, and a number of books. . . . .

The fare at such a farm is frugal, and not much varied. Early in the morning comes the *desayuno*, or breakfast, literally the "disemptying," and this consists almost universally in Spain of a cup of chocolate. The chocolate is pounded in a mortar, and is made quite stiff and thick, so that it is not drunk, but ladled out with a piece of toast or some sweet biscuits. This is a very sustaining little breakfast, admirably suited to a hot country, and preferable to the pernicious habit of taking a glass of strong spirits. After a few hours' work some milk is taken, with bread and cheese, and towards noon follows the *almuerzo*, or lunch, of which boiled beans or chick-peas form the *pièce de résistance*, varied by potatoes, with a small piece of bacon. The much-decried garlic is not at all an unpleasant addition when used with moderation, and the same applies to the olive oil, provided this is not rancid, a drawback the frequency of which increases during the summer, before the

new oil is pressed out in the autumn. After the day's toil, at nightfall, is taken *la cena*, the meal, more or less a repetition of the *almuerzo*, but spun out to greater length, because on this occasion all the members of the family and the servants sit down together, while the other meals are often taken out of doors, in the fields, on the meadows, or in the woods, just as occasion requires.

The Spanish country-people are not great eaters; bread, an onion, and a piece of cheese, are often all that they take with them from early morning till evening, and wine is not a drink which flows freely in a farm of the Cantabrian mountains; it is supplanted by curds. A remarkable feature is the scarcity of meat. Pigs are reserved for the winter; goats are killed and roasted on the great feast days. . . . .

Often the writer speaks of the Indian corn which he found growing in these Spanish mountains and mentions the use of cakes, i.e. bread, made from Indian corn meal as if it were used to a considerable extent. Much of the journey lay through high mountain valleys. Of one of these the author writes:

Rye is the common corn, while oats are rare. Wheat and barley appear lower down. Potatoes are good and plentiful. Indian corn does not ripen at this high level. Farther down it is of course grown extensively as food for man and beast. The bread made of this *milho* is rich, agreeable in taste, and wholesome, provided it is well baked; otherwise it is doughy and well-nigh indigestible. The homemade bread at Burbia—rye bread—is bad. . . . .

Every household has its little garden, which, being carefully irrigated, as described before, and receiving a good deal of what would go into drains, if there were such things, produces plenty of beans and cabbages. . . . . The principal meal, *la cena*, is taken between nine and ten o'clock at night.

Towards dusk Inocencia [wife of Romaldo, the owner of the farm where the author and his wife spent a considerable time] repaired to the room below our quarters to fetch several handfuls of dry cabbage leaves, which were lying there in a heap; butter and flour came from the same stores. Romaldo then cut the long stalks of the leaves into small bits and threw them into an iron cooking kettle, and when they had boiled for a good hour, some flour and fat were added. In another cooking vessel the potatoes were boiled with salt.

The supper being ready, Romaldo's family and field-labourers sat down on benches or logs of wood along the walls, the hearth with the kettle being in the middle. Everybody was supplied with a chunk of bread, and then Inocencia poured the cabbage-stew into the small *pucheros*, which were carried round by her and by Romaldo to the various people present, each person receiving a *puchero*, which they held on their knees, eating with wooden spoons.

EDITORIAL

The Demand for Health Workers. George E. Vincent, President of the Rockefeller Foundation, in his annual report forecasts the number of public health workers needed in the United States in the next ten years as approximately 20,000 persons. He says that there are 10,000 at present engaged in public health work in this country under federal, state, and municipal or county auspices. An equal number are working in one phase or another of preventive medicine in Great Britain. The number employed by non-governmental agencies of all kinds represents as many more. Health work in continental Europe is not so highly organized as in Great Britain, but here, as in many tropical countries, there is a growing demand for trained men and women in public health activities.

"Even a hasty glance at the gains which have been made in safeguarding human lives makes one realize how much of scientific knowledge, specialized skill, and organized capacity has been called into service," continues President Vincent. "The expanding idea of health is adding new types of technically expert individuals to the personnel of health work.

"The list now includes officers and chiefs who are in general charge, sanitary engineers, laboratory directors, specialists in statistics of birth, sickness, and death, field experts in the control of epidemics, administrators of clinics, hygienists for infants, medical inspectors of school children, mental hygienists and psychologists, leaders in health education for schools and the general public, visiting nurses, laboratory technicians, food and sanitary inspectors."

Home economics trained women are competent to engage in a number of phases of public health work. The emphasis, now placed on nutrition as one of the major aspects of all health teaching, affords them an opportunity to be of wide-spread service. Their training in the hygiene of clothing, in household and institution sanitation and cleanliness, in the sciences which are required in numerous lines of research in health problems, will enable them to join this increasing group of persons working for the public good from the preventive rather than the curative aspects.

The Campaign against Malnutrition. It sometimes seems as though people who discuss the nutrition of children are divided into two groups: those who are trying to wake the rest of the world to the consciousness of the need of studying and improving the nutritive condition of children, and those who radiate inhibitions, such as "there are no norms, no standard weight-height-age ratios; nobody really knows what malnutrition is, anyway; what is the use of a campaign? All you do is to produce a race of neurotic young persons who critically scrutinize their every mouthful, report all their good acts, and spend the rest of their days trying to bring up Father and Mother in the way they should go."

As a matter of fact, most of the people who carefully and accurately observe many children declare that too many of them appear to be undernourished, whatever the cause, whatever the strictly technical meaning of the word malnutrition, whatever the norm, may be. Most of these observers agree that something ought to be done about it.

A plan for doing something in an organized way in cities of 2500 to 3000 people, and in rural districts, is being prepared by the subcommittee of the National Child Health Council which has in charge the organization and conduct of nutrition work. The plan is still in tentative form, but it has been revised, after criticism and suggestion from a large number of the most experienced nutrition workers in the country, and it has been tentatively approved by the Advisory Council on Food and Nutrition. The plan is remarkable in scope, in comprehensiveness, and in good common sense; it is written and sponsored by experts. A clear and brief general outline includes *preliminary work* to arouse community interest in the malnourished child, to develop local leadership, to discover and make use of existing machinery, to make a survey to determine the size of the problem, and to obtain publicity and support for the campaign; *nutrition work in the school health program*, especially for preventive work; *facilities and methods for corrective work; means of maintaining the work; adaptation to rural conditions.* This outline is helpfully discussed in a foreword.

In connection with suggestions for a preliminary survey, causes of malnutrition are discussed briefly; some of them are more fully discussed in connection with points to be borne in mind by those in charge of nutrition work. These, and two definitions of malnutrition (one in the

foreword, page 1, and the other in appendix *c*, page 36) emphasize the point that malnutrition, if an entity, is not a sharply defined one; a conception that should be kept in mind by nutrition workers; a conception, too, that emphasizes the necessity, clear throughout the plan, of having, in the proposed campaign against malnutrition, close, organized coöperation of workers in many fields. Malnutrition is (1) a term commonly used to describe the condition of a child who is not developing properly; (2) a term commonly applied to a condition of general physical subnormality in children. Certain characteristic symptoms and pathological signs are present which indicate unmistakably that there is a lack of proper development. Among the causes are physical defects, habits, immediate environment; exhaustion or over-fatigue, improper diet, and faulty habits; improper breathing and posture; social conditions in home or community; water and milk supply; housing conditions, atmospheric contamination. Children, parents, teachers, doctors, dentists, nurses, social workers, nutrition specialists, all must coöperate in an organized effort if an efficient community campaign is to be launched.

Preventive work is to be done by extending health education in all schools, and including in this work nutrition teaching under the direction of a well-trained specialist. The organization of such work, and the place on the program for the midday lunch, and for the mid-morning lunch, are among the matters given consideration. In connection with corrective work, possible centers, necessary equipment, and staff of workers are considered, and methods of work, applied to children of pre-school age as well as to school children, are discussed most suggestively. There is need for pioneer work in discovering effective methods to use with children under six. In any case, the first step is a thorough general physical examination, the next, the correction of any physical defects found, then the grouping of the children who need special attention in classes of 15 or 20 for weekly meetings. The weekly determination and recording of weights, and the trimonthly determination of height are interesting and helpful to most children and their parents; they are criteria for judging progress. Granted that there are no reliable standards: call the values used for comparison merely tentative averages; still, a child whose weight is ten per cent under those averages for his height and age will generally be bettered by increased weight, provided that the increase is not "a gain in weight by any means," but is a gain made by obedience to the laws of health, cleanliness, rest, exercise, fresh air, and proper food. In the meantime, accumulation of data will improve our "standards."

It is planned to give home instruction or intensive work wherever either is needed, and to follow up the work after average weight is gained and the child leaves the class. But how one hates to read that "the child should be required to bring to the class a record regarding his meal times, the time spent at meals, hours for going to bed and getting up," and "a record of what he eats . . . . for a week!" Such a record, if accurate, has an obvious value, but only the exceptionally skilled and sensible can handle so delicate a matter without offense against good taste and good manners.

The plan includes a description of charts, summaries, records, possible speakers, sources of material, organizations that may be useful, possible cost; an adaptation of the scheme to rural conditions which is not only valuable for its avowed purpose, but full of exceedingly valuable psychology which any nutrition worker should ponder. One is warningly reminded of the now historic "Government Lady," whom Anna Maria Sophia Jones (who was really nothing but skin and bones, if you remember her) found it necessary to silence with a hatchet, just because she lacked this sort of psychological knowledge.

If this brief discussion has given the readers of the JOURNAL any idea of the plan discussed, it will be evident to them that it not only provides a remarkably definite and valuable scheme for fighting malnutrition throughout the country, a plan approved and backed by most of the leaders in nutrition work from coast to coast, but that it most emphatically offers to the home economics women of the country an immediate extension of their duties and privileges. For several years we have been hearing from our leaders that we were at the turning of the ways; that a radical change in direction, method, and subject matter was immediately called for. In the duller of us, the result has sometimes been a mental condition resembling that of a certain class in psychology, in which the eminent professor used to say: "Yes; that is true. But it is not just what I have in mind. What is that, Miss X?" This plan focuses our gropings, as, indeed, not a few of our leaders have been trying to focus them. Here is one perfectly definite thing that we know needs to be done. To be sure, it can be done without us, but only with great loss of time and momentum. Home economics teachers are scattered rather thickly over the country. They ought to be available for a pivotal position in the great movement which this plan will surely stimulate. Are they prepared for it?

If the teacher of home economics is inaccurate, superficial, hazy in her knowledge of health; if she does not realize that she is only a small

part of the whole group engaged in this work, if she cannot work out her relation with social worker, doctor, nurse, grade-teacher, and the rest, the work will go on without her help. The campaign will then, for some time, at least, lose enormously, and home economics as a whole will have lost a tremendous opportunity.

If home economics women are to make the most of the opportunity, they not only should be nutrition experts in the actual campaign, but they should be prepared to teach the grade teachers what they need to know about food and nutrition in relation to health, and to plan suitable courses for all normal school teachers, for the plan demands that much of the preventive work shall be done by the grade teachers who must, of course, have specialists at hand to keep them up to date in these special subjects.

Many schools of home economics have, for some years, threatened to do just what we should do now: offer straight food or nutrition majors, revamping food courses so that their bearing upon health is constantly evident; giving more definite health teaching; offering more courses which can be taken by graduates to bring them up to date in subject matter and method and into line with this movement and others; above all, following up their alumnae, and helping them to find their right speciality and to go as far in it as they are able, thus training a large group of leaders in the many lines which constantly look to home economics women for leadership.

RUTH WHEELER,
The University of Iowa.

The Metric System. An organized attempt is being made to further the legal adoption of the metric system of weights and measures in the United States. This effort is largely the work of the American Metric Association in conjunction with the Metric Committee of the American Chemical Society. During the past year the Metric Committee has broadcasted information in regard to metric standardization through various scientific journals[1],[2] and through letter communications and questionnaires to colleges, universities, and technical firms. A copy of the Senate bill, "To fix the metric system of weights and measures as the single standard of weights and measures for certain uses," introduced last year by Senator Ladd, is to be found in *Science*.[3]

[1] *Science*, 55, 232 (March 3, 1922).
[2] *Jour. Ind. and Eng. Chem.*, 14, 332 (April, 1922), also p. 421 (May, 1922).
[3] *Science*, 54, 628 (Dec. 23, 1921).

For teaching purposes in almost any scientific field, the metric system is in such constant and exclusive use that the proposed measure would be welcomed. However, in the world of trade the situation is not by any means so prejudiced in favor of metric units. Naturally a change, involving so much as the proposed one does, is receiving its share of criticism and opposition. To answer the objections of its opponents a "Summary of Arguments in Favor of Further Adoption of the Metric System" has been prepared by a special committee appointed by the Chamber of Commerce of the United States. The three sections of the summary quoted here indicate the convincing character of the whole.

"1. The metric system of weights and measures is now firmly established as an international system, either through its legal adoption, or its exclusive or permissive use for standards, by the principal nations of the world. Its more general use in the United States is therefore advocated to promote greater international uniformity, and in the hope, if that be accomplished, that other English-speaking peoples would follow the lead of this country.

"2. The basic simplicity of the system, with its few units, as the meter, liter, gram, with decimal subdivisions, makes both teaching and learning easy; and, in trade, makes billing and computation simple. During the period of transition, when for a time there would be more active dual relations than at present, conversion would be almost automatic through the use of tables of equivalents.

"3. The relative international popularity of the two major systems in use is shown by the number of nations which in recent years have adopted the metric system, while none has formally adopted the British-American system, although in population the two groups are about equal. (Since 1914, Poland, Latvia, Russia, Japan, Haiti, and Esthonia have become metric.)"

SYBIL WOODRUFF.

Maria Willett Howard Hilliard. "Miss Howard," as she was called during most of her professional life, was born in Braintree, Massachusetts. She received her formal education at Thayer Academy and at the Boston Cooking School, but all her life she kept the habit of study. After a somewhat varied teaching experience, she became an instructor in the Boston Cooking School which in the nineties supplied many teachers and workers of wide influence in domestic science. Later she was chosen its head.

In 1903 the Boston Cooking School was taken over by Simmons College, and in 1904 Mrs. Hilliard began her actual teaching there. She was largely responsible for planning and equipping its present laboratories, for establishing the Foods work in the Department of Household Economics, and for relating it to other subjects.

Besides her actual teaching she had a long and varied connection with the Women's Educational and Industrial Union of Boston, was a trustee of the Proctor Settlement, Proctor, Vermont, did war food conservation work under the National Civic Federation and through it organized the Boston Bureau of Household Occupation.

Mrs. Hilliard was a woman of wonderful personality; she was gentle, charming, gay, tactful, but forceful and plucky. She had a rare ability to arouse in all who came in contact with her an honest desire to do the best that was in them and to equip themselves successfully. Teachers who worked with her, students whom she taught and whose interests she shared, co-workers in anything in which she was interested, worked with a will, not consciously to please her but because the things she suggested and shared seemed right and good. She was particularly wise in securing the cooperation of others in adjusting the practical cooking of the older schools, in which she taught, to the more scientific attitude of a later day.

But that for which Mrs. Hilliard will be longest remembered was her unending helpfulness. Her real joy in life was in doing for others. In spite of frail health, tragic personal losses, and a busy life, she was always glad to see her friends, to talk over problems and accomplishments, and to give the helpful word or real service which would make them better and happier in their future lives. Truly she still lives in the men and women she has taught and cheered.

OPEN FORUM

Examinations in High School Food Courses. When the edict went out from the superintendent's office that thereafter semester examinations would be required in all high school subjects, the question at once arose as to what form the home economics examinations should take in order to be of any real value. The old memory questions over the subject matter were, of course, out of the question. However, it seemed worth while, first, from the standpoint of the students, to develop some

types of examinations which should genuinely test their ability to draw on the experience gained over a half year's work, in the solving of new problems. Second, such examinations might well prove a test as to how our own aims, so bravely set down on paper, were actually working out. We submit our plans for discussion.

Examinations in the ninth and tenth grades included both written and practical tests. The ninth grade course as a whole centers upon the needs of a hypothetical family in the community. The foods course is based upon meal planning and preparation for this family, involving the main factors of body needs, cost, time, and facility of preparation. The work of food preparation involves, besides the principles of cookery, the making and adaptation of "patterns" in place of recipes. The questions over this course were designed then to test the students' ability to think through some ordinary situations, forming their conclusions upon their experiences throughout the course. The following questions will serve as types:

1. Mary learned to make baking powder biscuits at school, using 1c flour. Supply the correct proportions of other ingredients. At home she found only sour milk. How could she change her pattern?

2. In the following sentences, underscore the words which make the statement true, giving a reason in each case.

a. Potatoes should be put on to cook in (hot, cold, boiling) water.

b. If I were buying meat for a stew, I would ask for (rib, porterhouse, plate, round).

3. Supply a salad appropriate for the completion of each of the following menus. Give reasons for your choice.

For practical tests over this course we give frequent home problems in meal planning and preparation. At first, the home problems are carefully planned with the teacher after the girls have consulted with their mothers. Later a girl makes her own plan and brings to the class a report of her problem which has been based in general upon the factors already given, but which must necessarily be adapted to her own family group. A note from the mother, often with valuable comments upon various phases of the girl's work, accompanies each report.

In the tenth grade we give another type of practical test. The course throughout the fall and winter includes the study of marketing and the complete responsibility for the school cafeteria. Each girl serves as student manager for a period of two or three weeks, working at first in close touch with the teacher, and, at last, using her experience gained in planning, buying, accounting, and general oversight, in assuming full charge for a few days.

In the spring the lunch room is closed, and each girl is responsible for the planning, marketing, and preparation of a series of meals at a certain cost. The students worked out a daily score card, scoring themselves as to menu, organization of work, housekeeping, flavor of food, serving, and hospitality. At the close of the series, summaries are prepared by the students, showing cost per person per meal, average cost per person, amounts spent for different classes of foods expressed in percentages of the total amounts spent for all food.

We believe that this type of examination, the combination of written and practical tests, has demonstrated the amount of usable equipment obtained by the student.

MARCIA ELIZABETH TURNER,
Teacher Training Dept.,
Iowa State College.

Table Service. During the past few years, and especially since the war, our high school and college courses in table service have been severely criticised. The criticisms have been just in many cases. The formal types of service have been taught to girls who have no waitresses in their homes and probably never will have in the new homes that they establish. If 95 per cent or more of American homes are without hired help, is it wise to spend all of the limited time devoted to table service on the serving of meals with a waitress?

Is any time spent on such service justified? And if so, how much? Nearly every housewife either gives or assists at formal meals or parties, helps with banquets or church suppers, or occasionally takes a meal at a hotel or large restaurant. At such times some knowledge of formal service is valuable. It gives poise and a feeling of ease which is essential to a gracious hostess, or a well bred guest. The question then remains, how much time should be devoted to formal serving? The old classical courses in table service in which meals were served a la Russian, English, and Compromise, are undergoing a metamorphosis. How much of these should be retained in our new courses?

At the practice meals served in connection with table service courses who should be guests? Should the class be expected to entertain any chance visitors to the school whenever they might come, or should an invitation come from the class when they are ready to extend such hospitability?

The tendency, too, is to invite outside guests only to the more formal meals, thus giving them an erroneous view of the kind of training the

class is receiving, and giving the class a wrong conception of the kind of entertainment that should be provided for guests. A certain doctor had evidently been entertained at such meals for he gave as the great benefit to be derived from home economics training that the girls would learn just what costume a maid should wear upon every occasion!

Any one interested in a course in table service planned with these points in mind, may have a copy by writing to the address below. Discussion and criticism will be welcome.

AMY BLOYE,
Purdue University, Lafayette, Ind.

Community Clothing Centers. For several years the Home Economics Extension Service in Pennsylvania has been studying the clothing problems of the women in the state. Our beginnings were through work with the girls and one- or two-day meetings among women, but these did not give time for the definite instructions needed. Last year we decided to try out a few clothing centers. These centers cover a period of two weeks of two sessions a day for at least five days a week, with five or six hours a day of supervised work. Two trained clothing workers are in charge, and the plan of the work is as follows:

The group contains at least twelve women who furnish the room, sewing machines, cutting tables, ironing board and irons, and their personal equipment.

The first problem is the fitting of a plain shirtwaist pattern. The women are divided into groups, and a fitting demonstration is given to each group, showing where the lines of a pattern belong and how to meet the individual differences in form. The women in charge are equipped with paper patterns in all the standard sizes so that each woman can cut the waist and two types of sleeve from unbleached muslin. They then work in twos, fitting each other according to directions given in the demonstration. This fitting is carefully supervised and no important step taken until it has been approved by the supervisor. All the fitting lines in these patterns are carefully marked. A waist can be cut and put together without fitting if these lines are followed. The women are taught how to use these patterns for underwear, plain shirtwaists, plaited and tucked waists, long-waisted dresses, and one piece dresses.

They then choose a garment to make which is suited to their individual ability and are shown how to take each step in making it. They are encouraged to bring in any individual problem. Some of the

types of garments, new and remodelled, and the demonstrations given in helping to solve problems may prove interesting.

Types of new garments: Underwear, shirtwaists, smocks, house dresses, gingham dresses, wool skirts, serge dresses, silk dresses, wool jersey dresses, wool jersey jumpers, children's clothes, underwear, dresses, coats, boy's suits, men's shirts.

Types of remodelled garments: Children's clothes made from adult garments, combination dresses from silk and wool dresses, wool dresses from old suits, one-piece wool dresses from old fifteen gored skirts.

Types of problems solved through demonstrations: Selection of material, selection of patterns, making of correct seams and seam finishes, hanging skirts, adjusting sleeves, making pockets for different garments, front, facing of middy and putting on collar, correct plackets, collars, simple decorations.

Each woman is given blanks to be filled out, one to be handed in at the close of the center, and the second after two or three months. By means of these we are keeping a record of work done at the centers and later work done as a result of the center.

This is a real piece of community work. One of the very gratifying results has been that the women have realized how much it means to get together and help each other. To date, more centers have been requested, by women of other communities who have heard of the work, than can be taken care of in a year with our present number of workers. Two of our workers have conducted clothing centers, meeting for an entire day once a week, on the same general plans as outlined above.

M. JANE NEWCOMB,
Pennsylvania State College.

BOOKS AND LITERATURE

The Newer Knowledge of Nutrition. By E. V. McCollum. New York: The Macmillan Company, 2d edition, revised and enlarged, 1922, pp. 449. $3.80.

This "rewritten" edition of "The Newer Knowledge of Nutrition" is one of several notable books on nutrition which have come from the press this year. One of the excellent features of the book is the comprehensive review of the experimental work undertaken during the past twenty years, from which has been evolved the biological method of food analysis to supplement chemical analysis. The author has traced the development of our knowledge of nutrition from the time when protein and calories were considered all sufficient, and when a "balanced ration" referred to the ratio between protein and engery producing foods, to the present, when a balanced ration includes not only protein of high biological value, but fine adjustments in the relative proportions of energy producing foods, protein, the inorganic elements, and essential vitamins. So admirable a treatment of the subject was possible only because of the author's wide and varied experience in nutrition investigations.

The first five chapters of the book cover the historical development of our knowledge of the nutritional requirements for growth and maintenance, as it has been derived from animal feeding experiments. Then follows a description of the dietary properties of many individual food stuffs, commonly used in the North Temperate Zone, the keynote of this discussion being the importance of using proper combinations of foods.

In the succeeding chapters, the experimental evidence is presented, establishing a causal relation between the so-called deficiency diseases, xerophthalmia, beri-beri, and scurvy, and a lack in the diet of specific chemical substances which are commonly designated as fat-soluble A, water-soluble B, and water-soluble C. The meager facts known concerning the chemical nature of these substances are also included. Pellagra and rickets, the two other diseases in which a defective diet is incriminated as a causal factor, are described in detail. A summary of the voluminous literature on rickets, in particular that of the past two or three years, is to the writer of this review one of the most interesting chapters of the book.

"The Newer Knowledge of Nutrition" is of special value to Home Economics teachers because it makes the application of laboratory experience to practical dietetics. In the final chapters the author emphasizes the necessity of making nutrition one of the major aspects of all health teaching.

From his study of dietary habits of various groups of people, he is convinced that there is a relation between quality of the diet and physical excellence of the people. The author has accumulated considerable evidence to support his claims that lowered resistance to infections, lack of vigor, and defective bone and tooth formation, are frequently sub-acute forms of the "deficiency diseases."

Elizabeth W. Miller,
Iowa State College of Agriculture.

Health Education and the Nutrition Class. A Report of the Bureau of Educational Experiments of New York City. Descriptive and Educational Sections by Jean Lee Hunt, Studies of Height, Weight and Mental Measurements by Buford J. Johnson, Report on Physical Examinations by Edith M. Lincoln. New York: E. P. Dutton & Co., 1921, pp. 281. $3.50.

This book is frankly a detailed description of the methods employed and results obtained in a limited experiment at Public School Number 64, Manhattan, "to determine how far a school can successfully employ the nutrition class procedure, and in particular how far the procedure itself can be expected to reinforce the school's general program of health education." It is not a book that carries us from page to page with wrapt interest but demands strict attention to follow its data and conclusions. Those who are especially interested in the nutrition

problem will find this piece of research stimulating.

The concluding chapter on "Interpretations and Recommendations for an Educational Program" will bear reading by all those who are struggling to perfect a health education program for the school child. The authors stand firmly for a positive health program and state "that health education must be rendered susceptible of evaluation is the challenge of the nutrition class to the school."

From their studies the following conclusions are reached:

"Gains have been largely dependent on initial physical status and proportionate to the relatively superior or inferior condition of the individuals considered.

"Gains have been largely influenced by the technique employed for enlisting cooperation from the children.

"Other conditions being equal, gains have been in direct proportion to the influence exerted on the home and the resulting parental cooperation.

"Gains appear to have been appreciably increased when favorable conditions directly affecting the nutritional processes have been introduced within the school environment."

A very important point considered in the concluding chapter is that of the community program for health education. "The success of the school program of health education is dependent on a serious program of education in the community." This book, together with several others along the same line which have recently appeared, affords us considerable valuable data upon which we should be able to rear a more enduring structure of health education.

RICHARD A. BOLT, M.D.,
Amer. Child Hygiene Assn.

Quantity Cookery: Cooking and Menu Planning for Large Numbers. By LENORE RICHARDS and NOLA TREAT. Boston: Little Brown & Co., 1922, pp. 200. $2.00.

Perhaps there is no subject about which there has been so little written, and yet there are few subjects for which the demand for information is so great, as the subject of quantity cooking, and institution management. The institution administrators of the country should welcome this book as a valuable addition to their working libraries, for it is practical and deals with subjects which come into the everyday life of every institution.

The first chapter deals with the principles underlying the planning of menus for large numbers. Many practical suggestions are given for the planning of menus for cafeterias and tea rooms, and a helpful list of foods is given for menu making. There are also seasonal charts of food for winter, spring, summer, and fall. These charts are altogether a new idea for cook books designed for feeding large numbers of people.

Suggestive and popular food combinations are presented. The methods of using leftovers, meats and vegetables, dairy products and eggs, breads, fruits, and jams, will appeal to a large number of our institutional workers, especially to the superintendents who are always concerned with the problem of waste. Take, for instance, the bread waste, the bread crusts, the dry bread which is left over. The suggestions in this book along that line should be very useful to many of the dietitians who are serving large numbers of people.

Catering is not forgotten. A practical form for taking catering orders is given, and there is suggested a well organized plan of procedure which should be a guarantee of satisfaction to guests and to the catering department.

Over one hundred pages are devoted to recipes for institutional use. The number of servings and the amount per serving, which is valuable information to be attached to an institutional recipe, are also indicated.

The last chapter of the book deals with the table of weights and measures.

Taking the book altogether, we term it a practical, usuable book, a valuable contribution to the meager institutional literature.

MABEL C. LITTLE,
University of Wisconsin.

School Needlework. By OLIVE C. HAPGOOD. Revised and largely rewritten by Ella J. Spooner. Boston: Ginn & Company, 1922, pp. 151. $.84.

This book was first copyrighted in 1892. The present edition has been very largely rewritten and rearranged.

Although originally planned as a course of study in sewing, in this new edition "no attempt is made to offer a course in clothing. It is assumed that the course for the school is prescribed with the desired emphasis on selection, cost, and suitability of clothing. . . . This book has a different purpose. The experienced worker often forgets the many stages through which the beginner must pass in the learning process and the help that is needed along the way. It is with these details for the beginner that this book has always been concerned."

There are chapters devoted to tools for sewing, stitches used in plain sewing, ornamental stitches, processes of construction, mending, the sewing machine, suggestions for application of stitches and construction processes in making simple garments, some notes on cloth and tools carried over from the supplement of the original teacher's edition, and an index.

The subject matter has been brought up to date and some new material has been added. This includes the chapter on the sewing machine which is as complete as any discussion of this topic to be found in clothing texts but which is not illustrated. The garment construction section is also new and includes new problems and directions for simple drafting of the patterns to be used.

Inasmuch as no attempt is made to outline a course of study, a logical, rather than a psychological, arrangement of contents has been followed. New and up-to-date illustrations would have added considerably to the attractiveness of the book.

ETHEL L. PHELPS,
University of Minnesota.

Health in Home and Town. By BERTHA M. BROWN. Boston: D. C. Heath & Co., rev. ed. 1922, pp. 326.

The revised edition of this book is practically the same as the original publication in 1912. Indeed it is so nearly the same, that the index still refers us to p. 297 for a discussion of the license system, which is the only topic dropped out in this issue of the book. There are but five additions, and no replacements in the reference list of books for teachers despite the very productive years from 1912 to 1922. There are no changes in the text until p. 296, when two pages devoted to the old license system are replaced by an equal amount of space given to prohibition. Then follow thirteen new pages of text, which complete the revision changes made; these are devoted to the recent health movements, including such topics as school clinics, medical inspection, malnutrition, and the girl and boy scout organizations none of which are considered of sufficient importance to be included in the index!

There are certain corrections which should appear in a 1922 text: these include an up-to-date discussion of pasteurization of milk (p. 172), the omission of the inefficient household charcoal filters (p. 195), an increase over 1912 in the rent and building rates, a substitution of chemical for electrical methods in the prophecy concerning water purification, and the newer methods of disease prevention, especially toxin-antitoxin treatment for diphtheria.

There are, however, many good things true of this text. The type and paper are good, the illustrations are varied, and the text includes a rich variety of topics of interest. The author has the power of briefly describing situations or processes in a way that compels visualization.

JEAN BROADHURST,
Teachers College, New York City.

Talks to Mothers. The Maternity Center Association, 370 Seventh Ave., New York City, announces the publication of a series of twelve "Talks to Mothers" for the benefit of women in all parts of the country. This is an attempt to undertake on a national scale to impress women with the vital importance of complete maternity care.

The scope of the pamphlets is suggested by their titles: "Life's Richest Offering," "A Message to Husbands and Wives, too," "The Growing Life," "Keeping up Appear-

ances," "Watch for Nature's Signals," "Preparation for the Newcomer," "Getting Ready for the Great Event," "The Day your Baby Comes," "The Lying-in Period," "Starting Baby Right," "After care of the Mother," "The Foundation of Child Life."

It is planned to distribute the pamphlets to a great extent through nursing and public health organizations which are closely in touch with local conditions in their own communities. One set, postage prepaid, 25 cents, 50 sets $10.00. Special rates for larger orders.

An Extension Course for Homemakers. An article compiled by Bess Smenner as part of her research work at Teachers College has been added to the "loan" papers in the JOURNAL Office. It outlines in detail a course in selected units and includes a bibliography and sources of illustrative material. It will be loaned on receipt of 10 cents.

Stored Food Record. Blanks for recording stored food in the home have been prepared by Lottie Milam, Montana State College, Bozeman. The cards are intended for use in keeping a record throughout the year; as an indicator of the amount of home grown and home canned or cured foods as compared with those purchased; and as an analysis of the diet of the family.

PAMPHLETS RECEIVED

Issued by the U. S. Department of Agriculture:

American Moles as Agricultural Pests and Fur Producers. Farmer's Bull. 1247.
The Boll Weevil Problem. Methods of Reducing Damage. Farmer's Bull. 1262.
The Care of Leather. Farmer's Bull. 1183.
Meade Cotton an Upland Long Staple Variety Replacing Sea Island. Bull. 1030.
Methods of Manufacturing Potato Chips. Bull. No. 1055.
The Preparation of an Edible Oil from Crude Corn Oil. Bull. 1010.
Relation of Initial Temperature to Pressure, Vacuum, and Temperature Changes in the Container during Canning Operations. Bull. 1022.
Self Service in the Retailing of Food Products. Bull. 1044.
Sewage and Sewerage of Farm Homes. Farmers' Bull. 1227.
Status and Results of Boys and Girls Club Work. Northern and Western States. Dept. Circ. 192.
Studies on the Clarification of Unfermented Fruit Juices. Bull. 1025.
Volume Variation in Bottled Foods. Bull. 1009.

Issued by the Department of the Interior, Bureau of Education:

Equipment and Rooms for Home Economics Departments. Home Economics Circ. 11.
Preparation of Teachers of the Social Studies for the Secondary Schools. Bull. 1922, No. 3.
Present Status of Home Economics Education. Home Economics Circ. 10.

Issued by the U. S. Department of Labor, Children's Bureau:

Child Labor and the Work of Mothers in Oyster and Shrimp Canning Communities on the Gulf Coast. Bureau Publication No. 98.
Industrial Home Work of Children. Bureau Publication No. 100.
Promotion of the Welfare and Hygiene of Maternity and Infancy. Bureau Publication No. 95.

Issued by the U. S. Department of Labor, Women's Bureau:

Negro Women in Industry. Bull. of the Women's Bureau, No. 20.
Women in Georgia Industries. Bull. of the Women's Bureau, No. 22.

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The Acid-Base Balance in Animal Nutrition. III. The Effect of the Addition of Alkalies to the Ration on the Growth and Well Being of Swine. Further Data on Acid Feeding. Iowa Agr. Expt. Sta. Res. Bull. 71.

The Child's Day. By Mary Swartz Rose and Geraldine Gorton. Technical Education Bulletin, No. 40. Teachers College, Columbia University.

The Colorimetric Hydrogen Ion Determination as a Means of Studying Biological Changes in Dairy Products. Mich. Sta. Tech. Bull. 52.

Does Carbon Dioxide in Carbonated Milk and Milk Products Destroy Bacteria? Illinois State Circ. 256.

Equipment for Teaching Home Making in Texas High Schools. By Jessie W. Harris. Bulletin 140. State Board for Vocational Education, Austin.

Good Teeth. U. S. Public Health Service. Reprint No. 707 from the Public Health Reports.

Historic Costumes. Dry Goods Economist, 239 W. 39th St., New York City.

Home Economics Extension Service in Illinois. By Juliet Lita Bane. Circ. No. 248. University of Illinois, Urbana.

Hospital Administration and the Training of Hospital Executives. Report of the Committee on the Training of Hospital Executives, 22 East Ontario St., Chicago.

How the Farmer can Save his Sweet Potatoes and Ways of Preparing them for the Table. Alabama Tuskegee Sta. Bull. 38.

How Women's Organizations may help in Americanization Work. U. S. Dept. of Labor, Bureau of Naturalization.

Investigations in the Artificial Feeding of Children. Iowa Univ. Studies, Child Welfare I, No. 5.

Model Plant for the Manufacture of Gas. (Chart and Description.) Smithsonian Institution, Washington, D. C.

The Preschool Nutrition Class. American Medical Assn., 535 N. Dearborn St., Chicago.

Principles Involved in the Preservation of Fish by Salt. U. S. Dept. Commerce. Bur. Fisheries Doc. 919.

Studies in City Milk Distribution. Mich. Sta. Spec. Bull. 111.

Vitamins and the Daily Diet. Ark. Sta. Bull. 176.

Wealth, Annual Income and the Occupational Classification of the American People. (Chart) Samuel S. Wyer, Consulting Engineer, Hartman Bldg., Columbus, Ohio.

Wheat, Flour, and Bread. Ohio Sta. Bull. 350.

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NEWS FROM THE FIELD

To the Editor of the Journal of Home Economics,[1]

I am sure that a valuable contribution of the knowledge concerning vitamines could be made from Australia. We have in certain dry parts, where small attention is given to vegetable growing, a peculiar form of scurvy. Very little teaching is given on preventive measures and very little investigation is done, yet I believe that our doctors, if communicated with, could make some interesting revelations.

The need for the trained home economics woman is tremendous. Our country hotels have steadily deteriorated since the limitation of drinking hours has forecast their abolition, and wage setting for the various classes of waiters, maids, and other help has reduced the staffs. As there are seldom other places than the hotels where one may stay overnight the public is discontented and grumbling. The Irish have chiefly been in control of the hotels, but for meals the Italian and Greek shops are taking their place. As these latter are conspicuous for careless methods and doubtful cleanliness, the public is not much better off. There is a big opening for respectable, well organized hotels or boarding houses all over the country but especially on the better known motor routes. I have been on trips where we never got a clean, wholesome meal except those we cooked by the roadside.

Here is a golden opportunity for the home economics expert who wishes to spend a profitable holiday. She could do much in six months and, if given a few letters, she could be put in the way at once. We are absolutely at zero in the knowledge of home economics and it is no easy task making a start.

The International Association for the Promotion of Child Welfare has recently been established in Brussels. The object is to centralize all documentary research work bearing upon Child Welfare. The Association has started the publication of a monthly review, The International Record of Child Welfare Work, which will publish articles on all questions of general or international importance relating to Child Welfare, will keep its readers abreast of the transactions of the various national and international congresses dealing with this subject, and of lectures and conferences relating thereto. The Association also intends to publish, in supplementary form, all legislative measures, affecting Child Welfare, adopted in every country throughout the world. The International Record will be published in English as well as French.

The Association of Teachers of Domestic Science of England. The annual meeting of this association was held at Crane Hall, Liverpool, May 27, Eleanor Rathbone, President, presiding. Guests were formally welcomed by the Lord Mayor of Liverpool. Miss Rathbone made an address on The Relation between the Economics of the House and of the Nation.

Helen Atwater and Emma Winslow of the American Home Economics Association were asked to speak at the conference but neither was able to be present.

Dr. J. L. Paton, High Master, Manchester Grammar School, talked on liberal and vocational education. Miss Denmark, of The County Secondary School, Streatham, London, gave the results of a year's experience of the Dalton plan. Florence H. Laverock of the Department of Education, Liverpool Univeristy, talked on Colour and Colour Schemes.

Trips were made by the visitors to Domestic Subjects Centers of Liverpool, the Training College for Teachers of Domestic Science, the Nursery Training College, and other institutions of special interest to them.

The association publishes the A. T. D. S. Magazine, which gives news notes of district associations, and discussions of questions relating to the work of the Domestic Science Mistresses.

[1] Extracts from a letter from Ruth Beale who is trying to establish a School of Home Economics at Sidney University.

The American Dietetic Association is to have its annual convention in Washington, D. C., at the New Willard Hotel October 16th, 17th and 18th and on October 19th, a day's visit and program have been planned in Baltimore at Johns Hopkins Hospital for those who wish to visit this interesting city and famous hospital.

The program for the meeting is not complete as yet. However, those speakers who have consented to be on the program are as follows: Dr. J. P. Watson, Psychologist, Dr. Elliot P. Joslin of Boston, Miss Emma Gunther of Teachers' College, Columbia University, Mrs. Mary D. Bryan, President of the American Dietetic Association, Mrs. Agnes O'Dea, Johns Hopkins Hospital, Miss Breta M. Luther, Cook County Hospital, Dr. Ruth Wheeler, Professor, Nutrition, Iowa State Medical School, and Mrs. Laura M. Piper of New York. Major Stimpson will be among the speakers on the first day.

On Tuesday: Dr. Alfred Hess of New York, Miss Stewart, assistant dietitian, Ann Arbor Hospital, Dr. Leroy E. Parkins, assistant superintendent, Peter Bent Brigham Hospital, Mr. Henry C. Wright of New York, Mrs. Mary Swartz Rose of Teachers' College, Columbia University, New York, Miss L. Ray Balderston, Teachers' College, Columbia University.

On Wednesday: Miss Ida Cannon of Boston; Miss Lucy Gillett of New York; Miss Louise de Plante of Philadelphia; Dr. Walter Cannon, Professor of Physiology, Harvard Medical School, Boston; Miss Lulu Graves, Superintendent, Dietary Department, Mt. Sinai Hospital, New York; Miss Marjory Hulsizer, Dietitian, Barnes Hospital, St. Louis, Mo.; Miss Daisy Treen of the Women's Educational and Industrial Union, Boston; and Miss Mary Lindsey of the Grace Dodge Hotel, Washington, D. C.

Thursday in Baltimore: Dr. E. V. McCollum of Johns Hopkins Hospital and Dr. William S. McCann of Johns Hopkins.

A number of special features are being planned this year. The Washington dietitians are arranging for some trips and social events and one evening of the meeting will be especially interesting as it will be an "all-member" program.

The American Child Hygiene Association will hold its annual meeting in Washington, D. C., October 12 to 14. This will give an opportunity for the members of the American Dietetic Association to attend both conferences.

A Pupil Dietitian's Course is now offered at Walter Reed General Hospital, Washington, D. C. The course covers a period of six months, during which time the pupils are given practical experience in the various messes and in the laboratory. The lectures for the Army School of Nursing, beginning October first, are open to the students. Among these lectures the courses in Diet in Disease, Physiology and Anatomy, Communicable and Occupational Diseases will be found of especial value and interest.

Those entering at this time will be given an opportunity to attend some of the meetings of the American Dietetic Association which holds its annual convention in Washington October 15–18. Arrangements will be made for pupils to visit the various bureaus of interest in the Department of Agriculture, as the Bureau of Chemistry, the Bureau of Standards, and the Office of Home Economics.

Quarters, subsistence, and laundry are furnished, and a nominal salary of fifteen dollars a month is paid.

An outline of the course and application blanks will be sent upon request.

Ceramic Research. A new ceramic laboratory, in which investigative work regarding the clays of the Northwest will be conducted, is to be installed at the Northwest Experiment Station of the United States Bureau of Mines on the campus of the University of Washington at Seattle.

A coöperative agreement has been effected between the United States Bureau of Mines and the Central of Georgia Railway for an investigation by the Ceramic Experiment Station, Columbus, Ohio, of the white clay and bauxities through central Georgia along the railroad right-of-way.

Preliminary tests on the effect of low calcination temperatures on the colloidal content of Georgia white clays have been made. By calcining Georgia clay to from 500° to 600°C. the adsorptive properties were reduced to those of the English china clay, without materially reducing its plasticity.

A microscopic examination of the mineral constituent of kaolins is being conducted at the Ceramic Experiment Station at Columbus.

CONNECTICUT

State Agriculture College. Home machinery and equipment, and the home management problem were discussed at a four-day conference held June 19–22, and attended by home demonstration agents, state extension directors, leaders, and specialists from Massachusetts, Rhode Island, and Connecticut, and by representatives from New Jersey, Vermont, and the Washington Extension Office.

Professors Robb, Gunness, and Knipe, professors of rural engineering at Cornell, Massachusetts Agricultural College,and Connecticut Agricultural College, respectively, ly, were in charge of that part of the program devoted to systems of running water, sewage disposal, heating, and lighting in rural homes, and to practical demonstrations of power and hand machinery and equipment. Prof. W. W. Chenoweth of Massachusetts Agriculture College lead a discussion of the pressure cooker, its value, and its use in canning and in cookery. Demonstrations, exhibits, and moving pictures added greatly to the value of the discussions.

Subject matter and methods were emphasized on the program. A discussion of the unified program in extension work, signalized as the outstanding development of the year, was opened by Florence E. Ward of Washington; Mrs. Frank J. Haynes of Massachusetts presented a state project in household management as part of this unified program; Eleanor Moss, Litchfield County, Connecticut, represented the county part in the program; and Mrs. Walpole of Rhode Island showed how it functions in the home. Agnes Harris of Washington summarized the progress of the project in the United States. Directors Willard of Massachusetts and Baker of Connecticut summarized the discussion of the unified program for extension work and the part of each agency in its success.

Estelle Sprague, state leader of home demonstration work in Connecticut, Lucille Reynolds, state leader in Massachusetts, and Director Baker of Connecticut presided at the various sessions.

This conference reflects the growing interest in home management as a basic family project.

GEORGIA

The Georgia Home Economics Association held its annual meeting in Columbus, April 20–22. Among the speakers on the program were Helen Louise Johnson, who discussed The Present Day Distribution of the Family Income; Clyde Schuman, who outlined the Red Cross Nutrition Program; and Ada Field, Peabody College for Teachers, who discussed Applications of Recent Scientific Investigations to Home Economics.

The plan of affiliation with the American Home Economics Association was presented by Miss Field, who is a member of the council of the national association. A committee was appointed to revise the constitution in accordance with the requirements for affiliation.

Epsie Campbell, State Supervisor of Vocational Home Economics, in giving the report of the field work committee of which she is chairman, outlined the aims and idea for the teaching of home economics in the state.

The officers of the association, reelected for another year, are as follows: President, Julia Robertson, South Georgia Normal College, Valdosta; Vice-President, Lois Dowdle, State College of Agriculture, Athens; Secretary, Clara Lee Cone, Girls High School, Atlanta; Treasurer, Bess Baird, State Normal School, Athens.

ILLINOIS

Illinois Home Economics Association. Plans are being made for the second annual meeting which will be held in Decatur, Friday and Saturday, October 27 and 28. This is following out the suggestion made at the time of organization last fall that meetings should be held alternately in Chicago and in some city in the state at large.

KENTUCKY

A State Teachers' Home Economics Conference was held at the University of Kentucky under the auspices of the Department of Vocational Education, June 15–21. Betsey Madison, Mabel V. Campbell, and Maybelle Cornell had charge of the sessions dealing with the organization of courses of study in home economics and related science and art for the grades and high school, considering the following points: time allowance, aims, suggested units to be offered, content of each unit, home work, references, illustrative materials, and special methods or devices.

A Clothing Project. As part of their class work, the girls in the high school at Ashland, with the assistance of their instructor, Mrs. Carrie Baskerville, made a complete outfit and additional articles for a little girl in a poor family, and a layette for a baby in the care of the public health nurse. The girls made over their own clothes, and bought new materials with money they contributed or solicited.

NEBRASKA

The College of Agriculture, University of Nebraska. "Farmers Fair" is an annual event planned and carried out entirely by the students of the College. They aim to show, through exhibits, demonstrations, and entertainment, the work of the College to the visitors who come from all parts of the state.

The students in home economics prepared exhibits in foods, clothing, and design. A style show put on by the clothing division was given as an afternoon party. Students in the millinery classes demonstrated the making of hats, and the finished products of the students were tastefully exhibited. The students in the design division demonstrated the refinishing of old furniture, and arranged a long narrow room to illustrate the possibilities of changing the appearance of the room by a correct arrangement of furniture and furnishings. The foods division exhibited a week's food requirement for a family of five. Visiting children were weighed and measured by the nutrition division, and a group of little children entertained the visitors with health verses and exercises.

In the afternoon and evening the home economics students presented a pageant play of the old fairy story "The Sleeping Princess." The costumes and all accessories of the pageant were made by the classes in the department.

During the first semester of summer school, the following courses were offered in Home Economics: Clothing Study, Millinery, Buying and Selecting Textiles, Clothing Design and Economics, Art Structure, Home Decoration and Furnishing, Related Science Methods, Food Economics, Home Management, Home Agriculture, Home Management House Residence, Newer Methods of Teaching Home Economics.

Boys and Girls Clubs. Two hundred and eight members of clubs from all parts of Nebraska spent a busy week May 29 to June 3. Most of these boys and girls had won prize trips as county champions in pig, corn, canning, and other clubs.

The mornings were spent in studying various lines of work, such as birds, bugs, weather, stock judging, poultry, and personal hygiene; the afternoon in making industrial trips to various institutions and business houses. The Lincoln Chamber of Commerce gave a banquet to the club members and leaders, and the Nebraska Farmer gave them a picnic supper and radio concert. They spent the last day in Omaha where they visited the stock yards and enjoyed a banquet served at the Stock Enchange. The Omaha Chamber of Commerce provided street cars to take all the boys and girls to the Union Pacific Shops and to the Iten Biscuit Company.

One of the interesting features of the week was the contest between the ten groups who put on demonstrations of club business meetings. The first prize was awarded to the group who gave a pig club business meeting such as would be held in August when the clubs were making their plans to attend the State Fair.

Nutrition Work. Dr. Hedger comes to Nebraska in October and will visit seventeen counties, giving in every county at least one

lecture demonstration on Malnutrition in Children. Underweight children will be examined, the daily activities will be talked over with the parents, and suggestions will be given as to the care of the children for normal development. To prepare the counties for this work, the Nutrition Specialist and the Health Specialist of the Extension Service are visiting the counties at least twice before Dr. Hedger's coming. Nutrition slides are shown which contain pictures of Nebraska boys and girls who have gained health by nutrition work already done in the state. Dr. Hedger's score cards are being used with success.

Nutrition Institute. Under the direction of Dr. Wolfe of the Lincoln Public Schools, Dr. Emerson held an Institute for two weeks during July. About eighty teachers and nurses registered for this work. Five clinics of twenty children each were started for Lincoln's underweight children.

The Annual State Conference of Vocational Home Economics Teachers was held May 29 to June 2. Thirty home economics teachers attended the conference. The general theme of the conference was the means of developing greater cooperation between the mother and the teacher in the teaching of homemaking. Fannie Sims, Head of the Department of Home Economics, University of South Dakota, spoke to the teachers on How Can Related Art be made to Contribute more Vitally to Preparation for Homemaking? L. A. Hartley, State Supervisor of Industrial Education, explained his method of analysis and synthesis of teaching content and showed how it may be applied to homemaking.

Nebraska Home Economics Workers attending Columbia this summer are Rose Shonka, Supervisor Home Economics, Lincoln Public Schools; Mrs. Kate Kinyon, Acting Supervisor Home Economics, Lincoln Public Schools; Gladys Legg, Clothing Specialist, Extension Service; Alice Bradt, Head of Design Division, Home Economics Department, University of Nebraska.

NEW ENGLAND

At the Boston Meeting of the N. E. A. there were three sessions of special interest to Home Economics people. The formal session of the American Home Economics Association, arranged by the New England Home Economics Association, was held July 5. The general subject of the program was The Relation of Home Economics to the Rest of the High School Program, and two phases were presented: The Responsibility of Superintendents and Principals, by George A. Works; The Responsibility of Supervisors and Teachers, by Edna White.

Prof. Works pointed out the necessity of having principals and supervisors who realize the value of home economics and also of having definite aims in our home economics courses as well as a "comprehensive and thorough preparation of teachers who will be able to teach in the light of these aims." Miss White indicated a tendency on the part of the home economics teacher to confine her interest too narrowly to her own group of students, whereas she should "remember that her greatest service may be in the courses adapted to the needs of the general student group, many of whom may be specializing in very different fields. She must not fail to appreciate the opportunity to give them a greater interest and understanding of home problems as well as a broader vision regarding them."

The discussions showed that there is a real appreciation of the fact that the Association and all persons who believe that home economics has a place of importance in the school program must adopt a more active attitude.

Mrs. Calvin called a conference for the following day which met at Simmons College, to consider the recent report of the N. E. A. Committee on the Reorganization of Home Economics in Junior High Schools.

One session of the Child Hygiene Division was devoted to the place of nutrition in the health education program. The speakers were Dr. Howe of the Forsythe Dental Infirmary, Dr. Blood of Simmons College, Mary McCormick, Nutrition specialist for New York State, and Minnie Murphy of the Elizabeth McCormick Memorial, Chicago.

Simmons College. To meet the requirement or trade experience for vocational teachers, Miss Spooner is trying this summer

the experiment of teaching dressmaking by shop practice. The plan is to offer, to trade people and teachers of sewing, shop experience under conditions more favorable than those of regular business houses. Orders are taken and work is planned as nearly as possible as in any shop, with this difference, that each day there will be one hour of lecture and demonstration by the instructor. The shop is in charge of Beatrice O. Brown, sketcher in the Design Department of Wilkin and Adler, New York City.

NEW MEXICO

Homemaking in Vocational Classes for Spanish American Women. The recent closing of the evening class in homemaking, conducted by Mrs. M. M. Leibold at Santa Cruz, marks the end of a remarkably successful period of instruction. Mrs. Leibold has to her credit 74 lessons. Instruction was given two eveings a week, each lesson being at least two hours long.

The instruction in homemaking was divided into short unit courses in canning and food preservation, elementary sewing and textiles, elementary food study and cookery, food values and requirements, house care, advanced cookery, advanced sewing, care and repair of clothing. Much of the work in food preservation was entirely new, drying being the only method of preservation hitherto used.

"When we arrived, there would be all the women in the neighborhood, gathered to watch the process" said Mrs. Leibold, "and there would also be all the kettles, pans, and utensils in the neighborhood, borrowed for the occasion. Along with the canning, it was essential to stress the need of absolute cleanliness. Most of the women wear the traditional black shawl. They watched, wide-eyed, the operations of the white-aproned class."

The food study and cookery were necessarily adapted to the conditions and materials at hand. Even thus restricted, much was accomplished. The work in sewing was adapted to the simple needs of the class. As the school authorities had set aside no sum for supplies, the materials were donated by pupils, by public-spirited citizens, and by the instructor.

This is the first work of its kind that has been given in the community. Its success is established. The demand for it is steadily increasing. Mrs. Leibold, who is also principal of the Santa Cruz public school, has the largest enrollment on record, and the people of the community have petitioned that she return next year and continue the work.

NEW YORK

The First Annual Exhibit of Women's Activities will be held September 18 to 23 at the Hotel Commodore, to present to the public the products in which women's activities have played a conspicuous part. The exhibit will be under the auspices of the New York League of Business and Professional Women. The plans contemplate an extensive, artistically decorated exhibit, which will serve to visualize the important contribution of women in practically every avenue of daily life. One of the objects is to bring before girls the numerous fields which have been opened up to them.

Teaching Laundering. A survey of the laundry industry by the Board of Trade of Greater New York in cooperation with the State Department of Education is part of a general campaign undertaken by this organization for the establishment of courses in "The Science of Laundering" to be given as part of the public school system of instruction.

The survey has recommended that the Board of Education establish and maintain a two-year part-time cooperative course for boys, and a one-year part-time cooperative course for girls.

The adoption of such a course of training will benefit not only the employee and the employer, but also the consuming public, who should demand sanitary laundries and the preservation of clothing by proper washing.

Buffalo Public Schools. Under the direction of Ethel Coan, Director of Domestic Science for Buffalo, The Information Test for the Eighth Grade was used in some of the schools of that city with gratifying results.

This test was worked out last spring at Teachers College under the supervision of Prof. Anna Cooley. (See Editorial, August JOURNAL, page 394.)

PENNSYLVANIA

The State Educational Department is arranging to do some intensive work in giving all the geography pupils in the state general and detailed information on the state's resources with particular reference to fuels and other resources that are directly concerned with the home. A special book is now under preparation, using largely governmental material, especially the models in the Smithsonian Institution, and this book will go to all geography teachers in the state. Fuel will be intensively discussed and the book will also be placed in the hands of all home economics teachers.

A Home Management Project. The senior class of the Department of Home Economics, West Philadelphia High School for Girls, planned and executed a practical home management problem.

The organization of the work was placed in the hands of a home manager and her assistant, each elected by the class for the period of the project. They systematized the plan into individual and small group problems so as to include every phase of home management, as follows:

1. Scheduling and despatching of work for a family of nine, eight high school girls and one instructor, in a 10 room city house for two days, allowing for the allotted time required for active participation in school on Friday, were carried out by the home manager and her assistant.

2. The problem involved the estimation of the cost or refinishing and redecorating a living-room on the second floor to include upholstering three chairs, papering the walls, and painting all wood-work.

3. The market order for the family was estimated previous to the day of arrival. Additional marketing during the time was minimized.

4. The financing included making the the family budget for the period, keeping accounts, checking out all funds, and collecting dues.

5. The care of the fires included both the hot-air furnace and the coal range used for cooking. A gas stove in the outside kitchen was called into service for the early morning breakfast.

6. Amount of fuel used for the gas lighting was estimated by one girl who was general inspector.

7. On Saturday morning a one-hour practical lesson was given in home nursing.

8. The home manager was responsible for checking up all work, and conducting the religious services each evening before bedtime.

The criticism of the entire project was submitted by the girl in charge of despatching the work.

SOUTH DAKOTA

University of South Dakota. One of the features of commencement week was an exhibit arranged by Fannie Sims, Professor of Home Economics, and Mrs. Edith Abel. The work of the students in the classes in clothing design and interior decoration was featured.

During the spring session the enrollment in the Department of Home Economics more than doubled that of the fall.

WISCONSIN

University of Wisconsin. An exhibition of craft work in block printing, tie-and-dye work, and batik, done by home economics students, was held in Milwaukee Art Institute last spring. This was part of the exhibit shown earlier in the State Historical Museum in Madison.

Milwaukee-Downer College. On May 27 the teachers and students from the junior and senior classes of the high schools of Milwaukee were guests of Milwaukee-Downer College. The May Day play was given on the campus under the hawthorn trees, and the Home Economics Department arranged an exhibit of the work of the clothing and textile classes, and served refreshments.

A series of five illustrated lectures on cotton, silk, wool, linen, and fur, was given during the spring term to students of the textiles class by the head of the educational

department of the Public Museum. Heads of departments of the leading stores gave demonstration lectures on rugs, linens, and silks.

A vocational conference was held in May to acquaint students with various promising fields of work for college women. Gladys Meloche, Extension Department, University of Wisconsin, spoke on Opportunities in Extension Work in Home Economics.

One of the graduates of the class of 1922 has accepted a position in the Bureau of Chemistry, Washington. Another is employed in a hospital laboratory for work in food and physiological chemistry.

NOTES

Edwin H. Ansell, luncheon manager of the New England Telephone and Telegraph Company, Boston, died at his home in Melrose on March 13. He received his early education in Boston and took up the trade of interior decorating. Since 1887 he had been connected with the New England Telephone and Telegraph Company. In 1914 he was appointed luncheon manager, the position including the supervision of furnishing the recreation rooms provided for the women employees. Those who attended the Swampscott meeting last year will remember Mr. Ansell's address on the Industrial Cafeteria.

Gudrun Carlson, who has held the positions of head of the Department of Home Economics at the University of South Dakota, and instructor at Skidmore and at Teachers College, has been appointed Home Economics Specialist in the Institute of American Meat Packers. She will work along lines of educational service and research as it pertains to home economics questions.

Mrs. David W. Clark, formerly Elizabeth Mann, who has been living on the Crow Creek Indian Reservation at Fort Thompson, S. D., returned to Teachers College as an instructor in Foods and Cookery during the summer session.

Ruetta Day, Assistant Professor of Home Economics at the University of South Dakota, has resigned from the staff and will spend the fall at Teachers College.

Winifred Stuart Gibbs has been appointed Director of the Food Service Bureau and Associate Editor of *The American Food Journal.*

Geraldine Gorton, Head of the Home Economics Department of the Masten Park High School, Buffalo, New York, spent the summer visiting schools on the Pacific coast.

Ellen Hillstrom of the University of Wisconsin has been appointed chairman of the art section of the Western Arts Association for the coming year.

Ola E. Johnston of Paducah, Kentucky, M.S. University of Wisconsin, 1922, will succeed Betsey Madison as State Supervisor of Home Economics Education.

Mrs. Kate Kinyon, who has been acting supervisor of Home Economics in the Public Schools, Lincoln Nebr., has accepted a position as Supervisor of Home Economics in the Denver Schools.

Hazel Manning, Assistant Professor of Home Economics, University of Wisconsin, has been elected National President of Omicron Nu.

Abby L. Marlatt, Director of Home Economics, University of Wisconsin, sailed on on the Pittsburgh from Philadelphia, June 22, for a fifteen months' trip around the world.

Rose Shonka, who has been on a year's leave of absence will return next year as Supervisor of Home Economics in the public schools of Lincoln, Nebr.

Announcement is made of the marriage of **Mary B. Stocking to Frank A. Witcomb,** in Boston, Monday July tenth. Miss Stocking has been Assistant Professor of Household Management at Simmons College, and Mr. Whitcomb is known to the Home Economics world as a member of the firm of Whitcomb and Barrows.

Mary B. Vail, formerly of the faculty of Mills College, is now in Japan giving lectures at Deshisha School, Kyoto, and other colleges.

Emma Winslow, who has spent the past winter doing special studying in sociology and economics in England, returned to the United States in June and was an instructor in the summer school at Teachers College.

Correction. In the report of student subscriptions in the August JOURNAL the mistake was made of printing 2 for 12 as the number from Framingham Normal.